

**TR1001**  
**Evaluation of Life Expectancy of LED Traffic Signals and Development of a Replacement Schedule**

Q1: *What is the total number of traffic signals operated by MoDOT, and how many are LED?*

A1: MoDOT has, according to the latest inventory, 2543 signalized intersections. 99.5 percent of them have LED indications.

Q2: *How long has MoDOT been using LED signals?*

A2: Since 1999.

Q3: *What is the percentage of failed LED traffic lights/signals, and what are the major reasons of their failure in Missouri? (Answer may include possible reasons like high ambient temperature, electrical storms, wet weather, faulty module, poor quality of utility power, or others).*

A3: Don't have the percentage of failures. Primary failures have been with the power supplies and resistors in the LEDs.

Q4. *In addressing minimum light output, what is the preferred option, follow the national guidelines or use engineering judgment for replacement? In case of observing dark pixels in a LED traffic signal, what triggers replacement of module?*

A4: National guidelines, namely ITE, as stated in the proposal. None at this point only the judgment of the maintenance personnel.

Q5: *From which major firms LED traffic modules have been installed in MO? Please specify their share (in percentage)?*

A5: Act One Communications, American LED Signal, American Signal Corporation, Dialight, Duralight, Gelcore, Ledtronics, and Leotek. Don't have percentages by manufacturer.

Q6: *Does MoDOT have installed or planning to purchase LED Traffic signals that have light output indicators which identify when light output falls below a specified level?*

A6: None installed and no plans to purchase with the indicators.

Q7: At present, does MoDOT observe a scheduled LED replacement or follows reactive replacement program?

A7: No established replacement program. Replace if indication is out.

Q8: *In addressing minimum light output, what is the preferred option in use, follow the national guidelines or use engineering judgment?*

A8: See answer to question 4.