LED Sign Compliance Checklist

MUTCD Requirements for the use of LED Enhanced Signs

While only the models of LED blinker sign listed on MoDOT's Traffic APL can be used on MoDOT routes, additional vendors are always welcome to submit their products. Many vendors do not fully comprehend the MUTCD requirements for LED enhanced signs and advertise their products as being MUTCD compliant when in fact they are not. The following are the key MUTCD requirements a LED sign product must meet in order to be MUTCD compliant before MoDOT will consider a new vendor's product:

LED Placement on a Sign

- LED units shall be placed within (unless otherwise specified by sign type) a
    - Symbol *(Only Chevrons for MoDOT Applications)*
    - Legend *(Not used by MoDOT)*
    - Sign boarder *(Standard MoDOT application)*
- No LEDs can be placed within the background of the sign except for STOP, YIELD and DO NOT ENTER signs
- LED locations when supplementing the sign boarder
    - LED units must be within the boarder, unless otherwise specified by sign type
    - A sign shall have one LED in each corner and a minimum of one LED along each edge of the sign *(MoDOT preferred display with the exception of YIELD signs)*
        - If more than one LED is placed along each edge of the sign, the LEDs must be equally spaced from one another and from the LEDs in the corners *(typically only applicable for YIELD signs)*
    - LEDs installed on STOP, YIELD and DO NOT ENTER signs may be placed within the white boarder, or within one boarder width from the boarder within the background
    - For circular signs (advanced railroad crossing signs), the number of LEDs shall be indivisibly located and equally spaced from one another around the circumference in sufficient numbers to clearly depict a circular shape, distinctive from any other sign shape
- LED locations when used to supplement a symbol (chevron)
    - LED units must be located within and along the edge of the black chevron symbol area
    - One LED must be at each corner point of the chevron symbol
    - One LED between the corner points on the left and right side of the symbol, none along the top or bottom edges of the symbol
- LED elements must be displayed individually, they shall not be clustered in strings or groups

LED Operation on a Sign

- LEDs shall be a maximum diameter of ¼ inch
- The LEDs shall automatically dim at night so as not to blind the driver and/or wash out the sign message
- Unless other wised stated, LED units can operate continuously or can be actuated
    - LEDs CANNOT be actuated when used on STOP and YIELD signs and must flash continuously
- LED enhanced signs CANNOT be used as a replacement to a flashing beacon in a WHEN FLASHING sign application, such as school speed limit signs
- Allowable LED colors by sign type:
    - A. White or red, with STOP, YIELD, DO NOT ENTER, or WRONG WAY signs.
    - B. White, with other regulatory signs.
    - C. White or yellow, with warning signs.
    - D. White or green, with guide signs. *(not used by MoDOT)*
    - E. White, yellow, or orange, with temporary traffic control signs.
    - F. White or yellow, with pedestrian or bicycle warning signs.
    - G. White or fluorescent yellow-green, with school area signs.

Sign Aspects of an LED application

- Sign, which LEDs are added to, shall otherwise comply with the requirements for retroreflection and illumination for nighttime viewing and must also meet all other sign design and size requirements, no special signs can be created
- The addition of LEDs to a sign CANNOT alter the uniformity, design, appearance, or legibly of the standard sign day or night.
- All LEDs shall flash simultaneously and in unison on a sign, at a steady rate between 50-60 times per minute

Correct LED display on Red Series Regulatory Signs (LEDs can be red or white)

Optional LED Location in Sign Face on STOP, YIELD and WRONG WAY Signs (LEDs can be red or white)

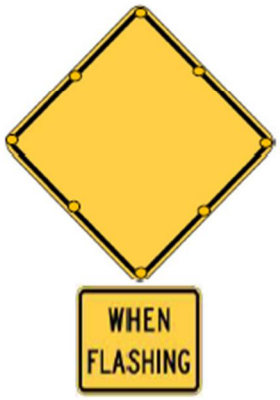
Correct LED Location on other Regulatory Signs (White LEDs Only)

Correct LED Location on Warning Signs (Yellow or White LEDs)

Correct LED Location on Chevron Signs (Yellow or White LEDs)

Examples of Non-Compliant LED Applications

LEDs Cannot be used with "When Flashing" Messages



Examples of Incorrect LED placements