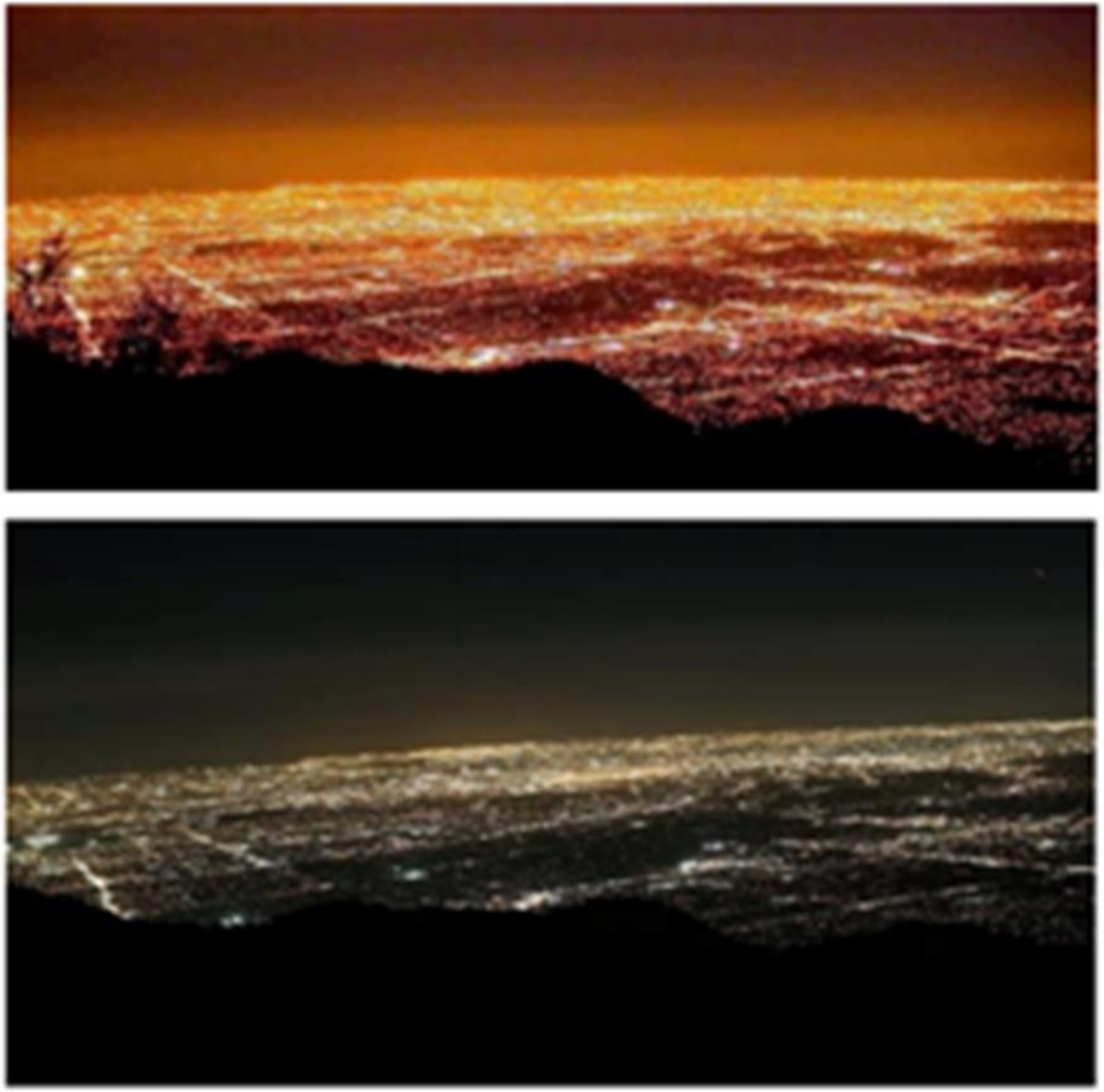
Safety and Security

From a safety and security standpoint police forces we have interviewed prefer the more fuller colour spectrum of 4000K LED over HPS sources. They have noted there ability to undertake surveillance is improved.

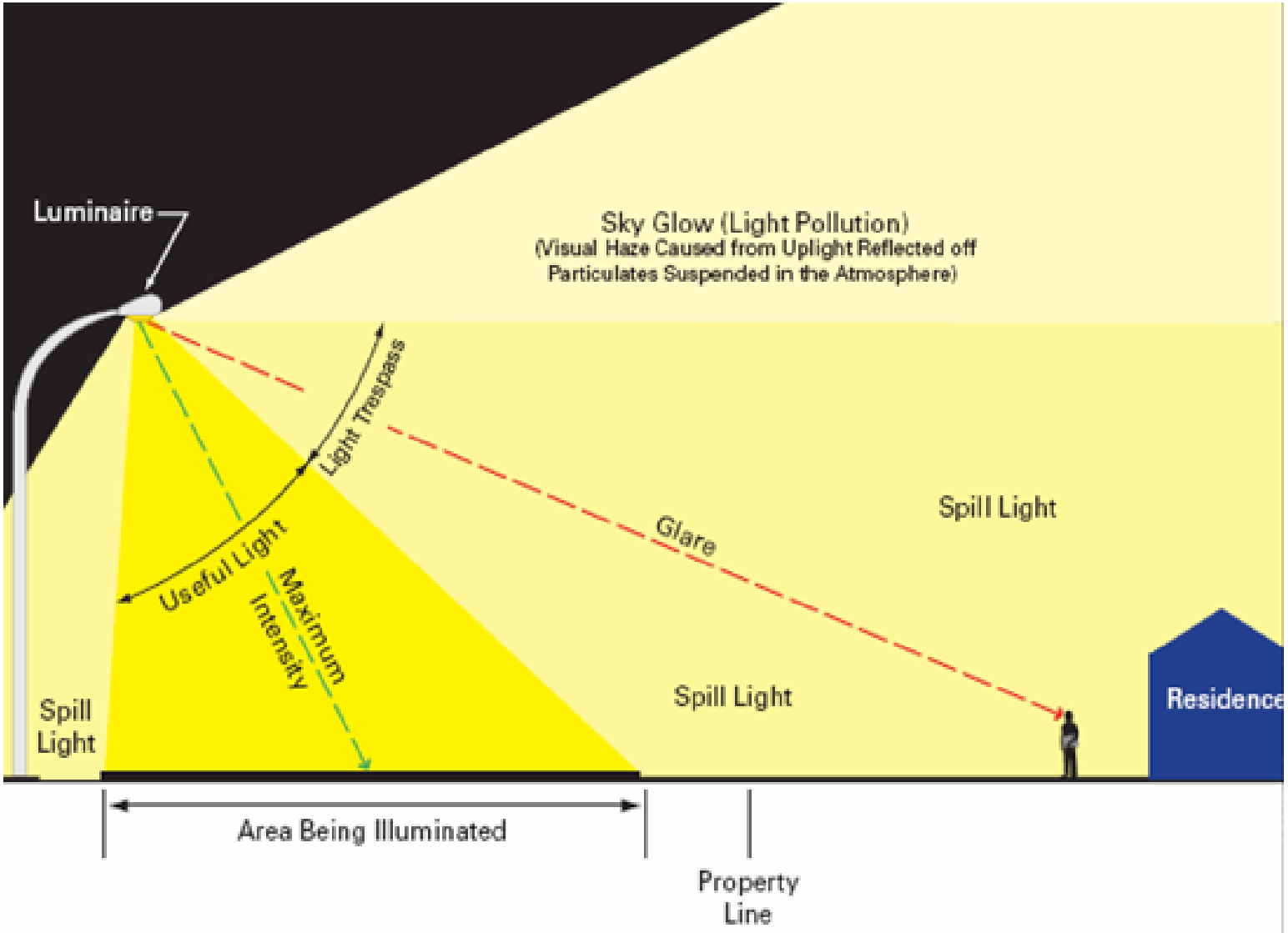
Suggest you review with your local police force

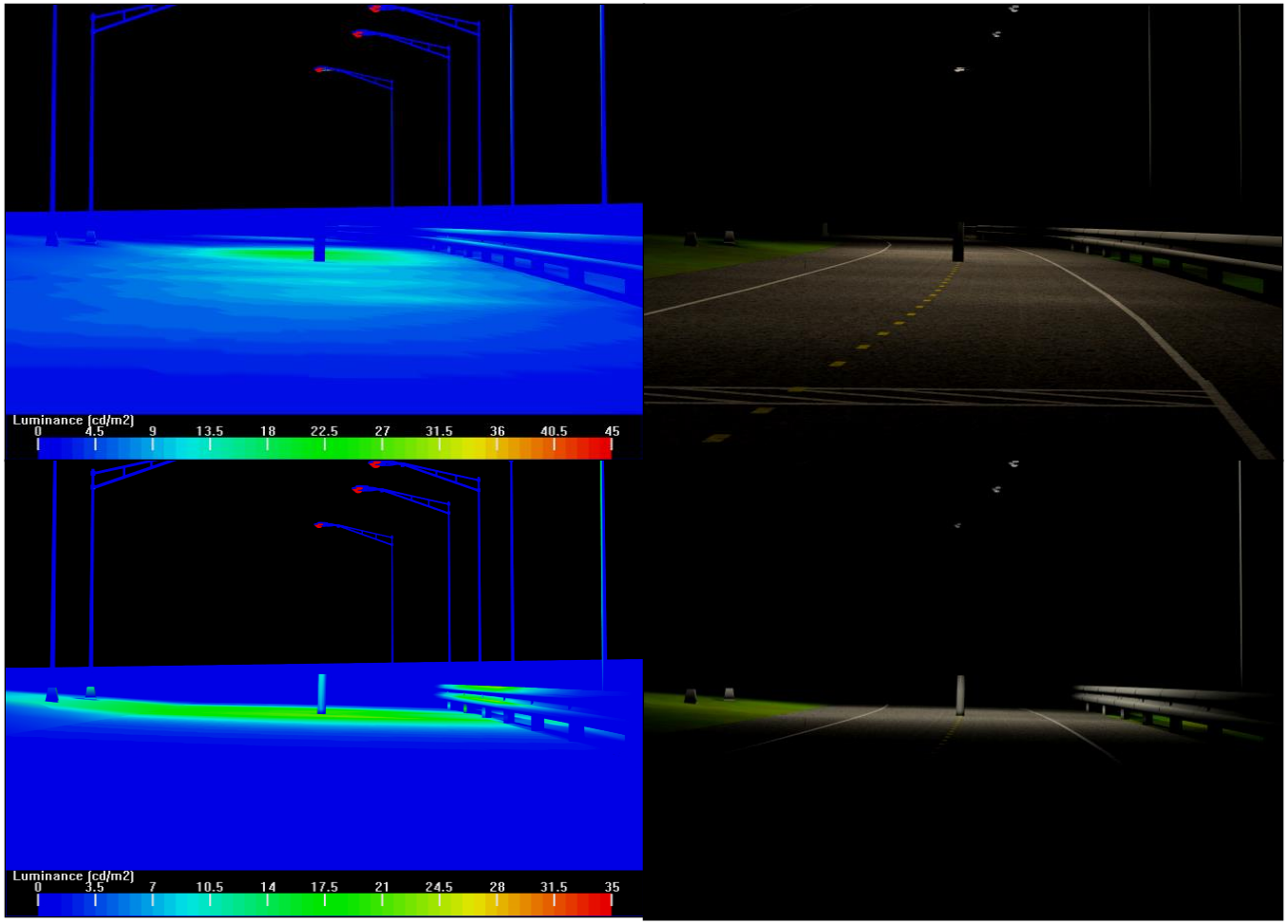
Sky Glow



View from Mt Wilson of light pollution in Los Angeles, before and after LED deployment

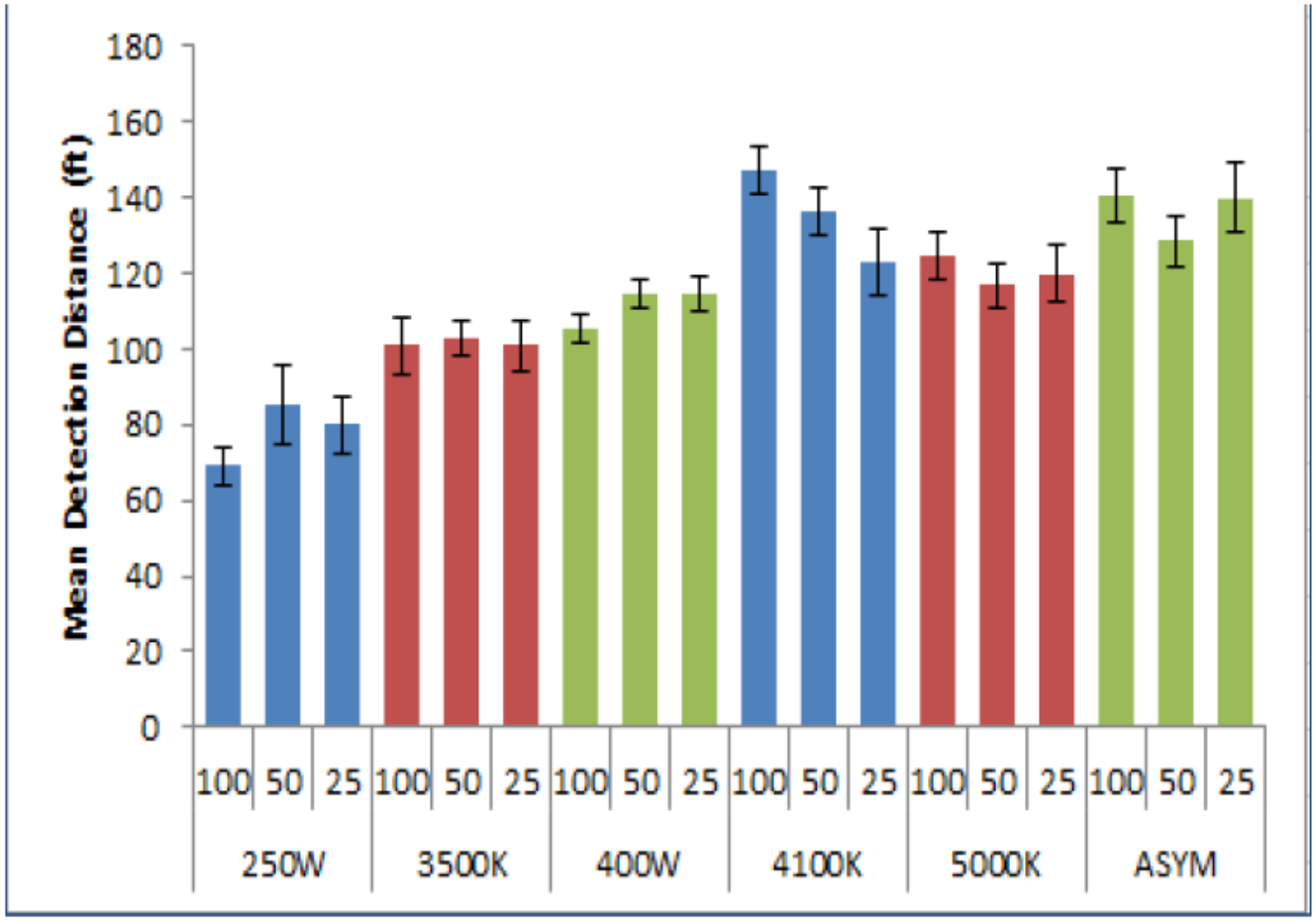
Light Trespass



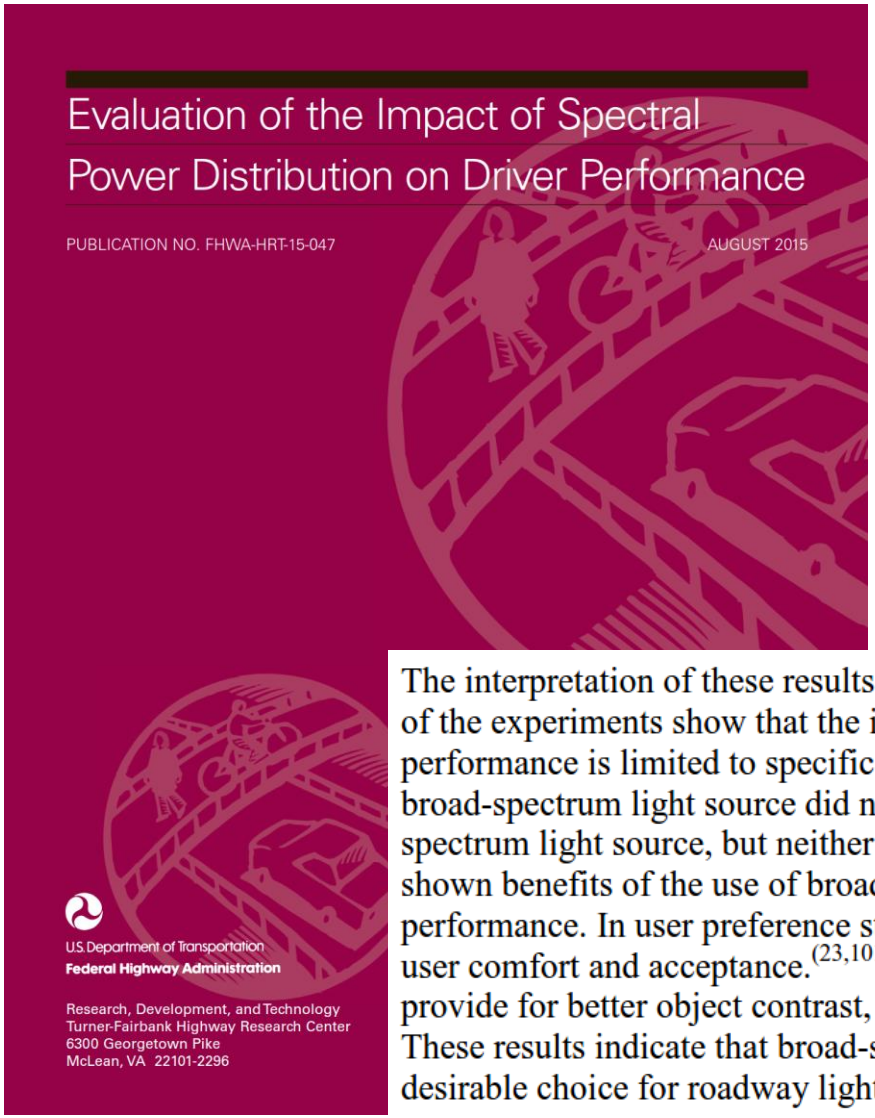


Luminance Contrast

Color Contrast



https://neea.org/docs/default-source/reports/seattle-led-adaptive-lighting-study.pdf?sfvrsn=4

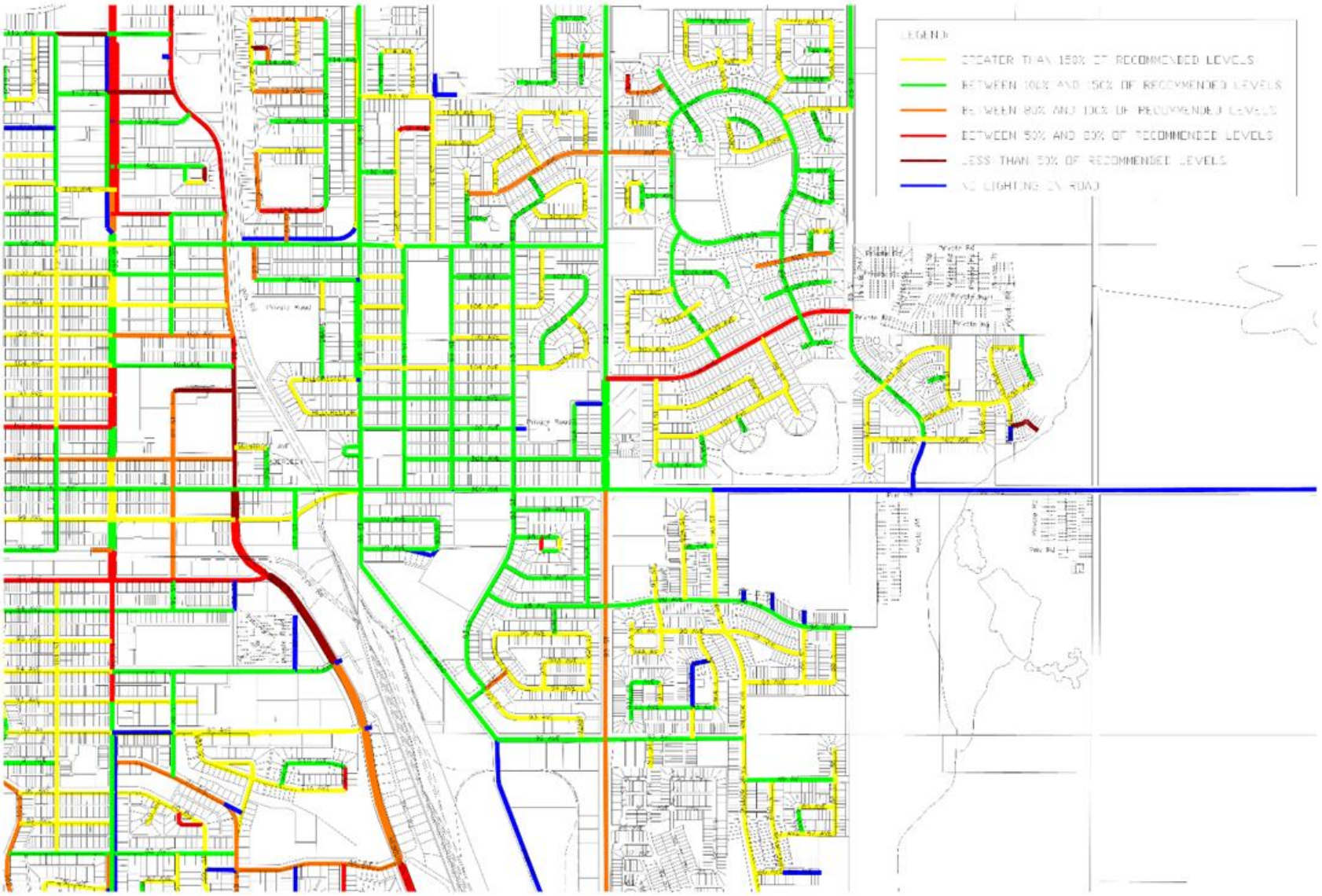


The interpretation of these results is an important aspect of this project. As mentioned, the results of the experiments show that the impact of overhead lighting spectrum on driver visual performance is limited to specific situations. It is important to note that, in many situations, the broad-spectrum light source did not improve driver visual performance over the narrow-spectrum light source, but neither did it worsen driver visual performance. Other studies have shown benefits of the use of broad-spectrum light sources beyond providing better visual performance. In user preference studies, broad-spectrum light sources were preferred for their user comfort and acceptance.[23,101] Other research has shown that broad-spectrum sources provide for better object contrast, thus increasing the detection of objects along the roadside. These results indicate that broad-spectrum lighting is a valid choice in general and likely a desirable choice for roadway lighting.

Approach

Lighting Design

- Many Roads are over lit – Demand energy efficient design. Use defined standards (TAC or IESNA)
- Use energy efficient product. Not all product are equal
- When undertaking a LED conversion drill down and undertake an assessment. Simply replacing a 100W HPS with a 50W LED may lead to improperly lit roads.
- Not all roads require lighting – Consider retroreflective pavement and delineator as alternate
- Consider adaptive lighting system
- ***TAC Roadway Lighting Efficiency and Power Reduction Guide*** is a good source of reference


LEGEND
GREATER THAN 150% OF RECOMMENDED LEVELS
BETWEEN 100% AND 150% OF RECOMMENDED LEVELS
BETWEEN 80% AND 100% OF RECOMMENDED LEVELS
BETWEEN 50% AND 80% OF RECOMMENDED LEVELS
LESS THAN 50% OF RECOMMENDED LEVELS
NO LIGHTING ON ROAD

LED Luminaire Efficiency