RESEARCH CASE STUDY

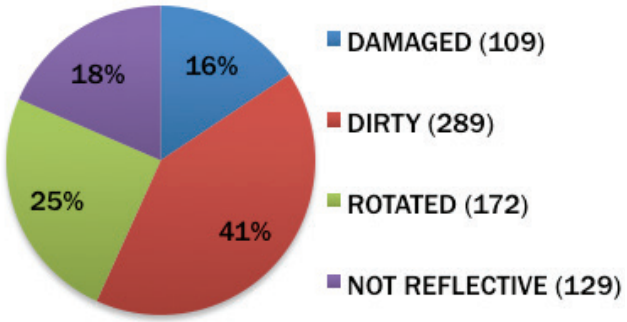
INTERSTATE 75 - FLORIDA DEPARTMENT OF TRANSPORTATION

Complete Traffic Sign Inventory, Retroreflectivity and Condition Assessment

DBi Services together with the Texas Transportation Institute (TTI) performed a sign compliance study in Florida in 2014 which included a complete inventory, retroreflectivity and sign condition assessment along 240 miles of I-75 in southern Florida.

8377 signs were inventoried of which compliance issues were initially detected with 1013 signs. However, 316 of those were construction signs, exempt from that project, leaving 697 signs (8.3% of the 8377 sign total).

Detailed field inspections of each sign were conducted, citing the following reasons for non-compliance:

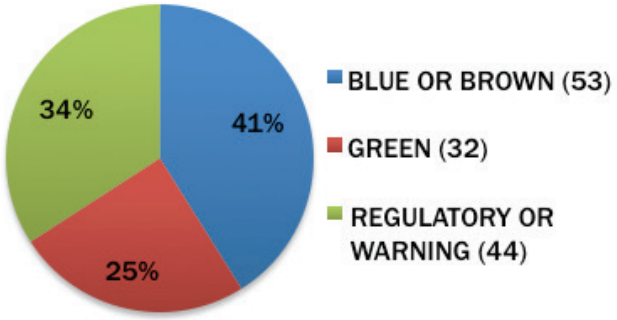


SAMPLE FIELD INSPECTION RESULTS OF NON-COMPLIANCE FROM I-75 PROJECT IN FLORIDA.

"Dirty" signs were identified by washing the sign and re-measuring retroreflectivity with a handheld device. If the retroreflectivity was increased above the MUTCD minimum levels, the sign was deemed dirty. The "rotated" category was identified in a similar way.

"Damaged" signs were classified as either faded in terms of color, physically damaged such as dented or scratched, or signs with graffiti. Signs with site obstructions were also recorded.

The 129 signs making up only 1.5% of the population found to be "not reflective" were distributed as follows:



CLASSIFICATION OF IDENTIFIED NOT-REFLECTIVE SIGNS.

Because blue and brown minimum retroreflectivity levels are not in the MUTCD, FHWA research recommendations were used to determine if "blue or brown" signs were non-compliant.

Additionally, because guide signs are not part of the necessary compliance related to the MUTCD minimum retroreflectivity levels, the only signs not in retroreflectivity compliance were the "regulatory and warning" signs. In other words, technically only 44 of the 8377 signs were found to be non-compliant with the MUTCD retroreflectivity requirements (or 0.5%).

The results from the sign retroreflectivity measurements were compared to the results conducted the same year along the same route using a nighttime visual inspection method with trained inspectors. The nighttime visual inspection results incorrectly recommended more than a 50% increase in the number of signs needing to be replaced.

One of the key advantages with the mobile retroreflectivity measurements is high quality data that can be used to extend the life of the signing infrastructure, which can save agencies significant costs. For example, in Florida the results from this study were used to demonstrate that measured retroreflectivity supplemented with a 5-year sign placement schedule would provide savings of more than $1,000,000 per year (compared to annual nighttime visual inspections).

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