

HEADLINE: NCDOT Improving How Engineers Identify Best Intersection Designs

The N.C. Department of Transportation's Joe Hummer, a national leader on innovative traffic designs, has recently published two papers that highlight the best intersection designs based on safety for motorists, pedestrians and bicyclists.

Hummer, the state's traffic management engineer, published his findings during the past year in the Institute of Transportation Engineers Journal, a publication for traffic engineers, industry partners and state transportation agencies.

Hummer has doctorate in civil engineering, and he is a frequent lecturer on designing safer roads.

His [first paper in 2020](#) included two tables he created to help engineers decide which design for an intersection would result in decreasing total crashes, or reducing highway deaths and serious injuries. What made his tables unique was he incorporated decades worth of traffic safety research.

His [second paper published in 2021](#) used a similar table format, but this time they were based on what was best for pedestrians and bicyclists navigating various types of intersections.

“What I discovered, to my great delight, is that if we design the safest feasible intersection, we will also in most cases have a design that is optimum for pedestrians and bicyclists too,” Hummer said.

His two sets of tables do not take in account project costs or impacts, which are big considerations in what design is ultimately chosen for constructing or upgrading an intersection. But the tables are now available to help NCDOT's traffic engineers, designers and project managers design a safer transportation network.