

Idea #	Name	Phone	Email	Affiliation
2021-002				Mobility and Safety Division
Idea Type	Internal			
IdeaTitle				
Urban Applications of Innovative Intersection Designs				
Problem				
<p>NCDOT is having some success installing superstreets (aka, RCUTs, RCIs, etc.), continuous flow intersections, and quadrant intersections in rural and exurban areas, where the safety and operational benefits have been substantial. However, the Department has met fierce resistance from town officials, landowners, media, and citizens when we have proposed one of those innovative intersection designs in an urban area or an area that is becoming urban. The dominant perception outside the Department is that those designs only serve high speeds and through motor vehicles. We need to know how to overcome those perceptions through design tweaks, mock-ups and images, testimonials, models, and any other tools the researchers can muster.</p>				
Background				
<p>At many urban sites, the Department has determined through traffic analysis that an innovative intersection design would be best for traffic efficiency. We are also convinced that such designs can serve non-motorized users well, can be compatible with urban land uses, and can help create great urban places. We have not been able to make that connection to this point though. In urban corridors, the superstreet is the innovative design of interest. At urban intersections, candidate innovative designs include the superstreet, median u-turn/bowtie, CFI, quadrant, town center, split, and various combinations of these. The results of not choosing an innovative design in a developing urban area are obvious and disheartening. North Hills in Raleigh and Ballentyne in Charlotte are examples of recently developed urban places where conventional road designs have resulted in congestion and crashes and have detracted from the urban atmosphere.</p>				
Tasks				
<p>The proposing teams have latitude in constructing a research plan to provide the Department with the materials it would like. It is likely that the existing literature will not help much, since NC is at the forefront of innovative design application. It is also likely that some combination of expert panels, interviews, charettes, focus groups, etc. would be needed.</p>				
Products				
<p>The research products should be a set of materials that the NCDOT can use during project planning and design stages to convince town officials, landowners, media, and the general public that an innovative corridor or intersection design can be compatible with, indeed be essential to, a great urban place. These materials could include websites, videos, animations, datasets, brochures, etc.</p>				
Implementation				
<p>The researchers should make recommendations on how to best make their new materials available to project teams working on urban projects for the next few years. The researchers should also recommend how the NCDOT should maintain and keep the materials up to date.</p>				
ExplainBenefits				
<p>With the ability to choose the optimum design for any particular corridor or intersection, NCDOT could be a partner in producing great urban places while providing mobility, safety, and access to all road users. Great urban places will be increasingly important in the coming decades to attract new businesses and new knowledge workers, keeping NC competitive.</p>				

Additional Comments

This project is **not about traffic modeling or crash rates**. It is about finding a way to change perceptions. Proposing teams should therefore **include, or be led by, professionals with skills in urban placemaking**.

SponsorChampionName	SponsorChampionUnit	SponsorPhone	SponsorEmail
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Benefit Categories

Increase Operational Efficiency/Time Savings;#Cost Savings;#Improved Models Performance/Traffic/Financial etc.;#Improved Worker or Public Safety