

**RESEARCH PROBLEM STATEMENT**

<b>DATE:</b> 09/25/2020	<b>PROJECT AREA:</b> Planning
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**TITLE:** Effectiveness of Infrastructure Investment and Innovative Markings on Road Safety for Motorized and Non-motorized Users

**PROBLEM STATEMENT:**

Approximately thirteen percent of all roadway fatalities and severe injuries in Arkansas were bicyclists and pedestrians in 2014, compared to seven percent in 2010. The number of people choosing to walk and bicycles has also increased in recent years. As a result, agencies implement strategies to improve safety while encouraging walking and biking, including green pavement markings, bicycle-box, two-stage turn box. There is currently a lack of data to evaluate the use of these strategies at intersections to increase safety. This research will provide on-the-ground evidence on the impact of these strategies on safety. This study will help improve bicyclists' safety and facilitate the planning and designing of traffic devices to improve overall road safety.

**OBJECTIVES:**

The objectives of this study are to: 1) assess the installation of experimental bicycle treatments to improve safety at intersections for non-motorized and motorized users, 2) assess test methods for the evaluation of motorists' and non-motorized users' behavior related to new bicycle treatments, 3) characterize and quantify whether new bicycle treatments at intersections reduce crashes and/or improves safety. Proposed tasks include: a) review state of the practice; b) identify test locations and test variables (e.g., non-motorized user and motorized user behavior, safety data); c) gather data and perform analysis; d) evaluate information and develop guidance on innovative markings at intersections through a workshop with research panel.

**FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:**

This research will produce a report documenting the research findings, with recommended best-practices on the implementation of green pavement markings and as a cost-benefit analysis of the usage of green-colored pavement markings to improve safety for non-motorized users. This research will guide ARDOT on planning, design, and implementation of innovative markings at intersections and thus help ARDOT reducing roadway fatalities and serious injuries, with an ultimate vision of Toward Zero Deaths.

**Estimated Project Duration:** 24 Months

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Standing Subcommittee Ranking <u>3/7</u>	Advisory Council Ranking <u>18</u>	Statement Combined with Statement Number(s) _____
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