ARDOT TRC TRANSPORTATION RESEARCH COMMITTEE

PROBLEM STATEMENT
No. 35

RESEARCH PROBLEM STATEMENT

DATE: 09/06/2019	**PROJECT AREA:** Planning

TITLE: Transportation Critical Levees and Floodways

PROBLEM STATEMENT:

Flooding in the US is increasing every year and the annual estimated flood losses/damages has grown to over $6 billion and continues to increase. While levees are intended to reduce the risk of flooding in rural and urban communities, many of the nation's levees are more than 50 years old and a significant number of levees were built with no design or engineering at all. Recent flooding and levee failures in Arkansas have also highlighted the important role levees play in our communities and how critical roadways can become inoperable during these events. Closed roadways make it difficult to get rescue crews, medical aid, and items like food and water to needed locations, and they disrupt the daily transportation activities which ultimately has an effect on the economy. There is a need to better understand the safety and economic impacts of roadway and bridge closures in Arkansas and to determine the critical levees and floodways in order for mitigation strategies to be appropriately chosen. Once the critical levees and floodways are identified, measures can be taken to determine the probability of failure/closure and possible mitigations strategies can be employed.

OBJECTIVES:

1. Examine the data from the 2019 floods, as well as historical floods considering roadway closures, recovery aid and relief activities, and the resulting economic impacts including cost of repairs and disruption of daily activities)
2. Determine the most critical roadways and the levees and floodways that result in their closure.
3. Evaluate the critical levee and floodway data to determine the probably of failure/closure and possible mitigation strategies.

FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:

1. Report summarizing the flooding, transportation closures, and the resulting economic impact of past events.
2. Map (and indexed list) of critical levees and floodways in terms of impact on transportation activities
3. Mitigation strategies to lessen impact of future flood events in Arkansas and work with USACE to improve performance of critical levees

Estimated Project Duration: 24 **Months**

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Standing Subcommittee Ranking	Advisory Council Ranking	Statement Combined with Statement Number(s)
5/7	N/A	