

Request for Research Funding for FY 2020-2021

Requesting Office	State Materials Office	Priority	#6 of 10
Proposed Title	Improved Resilience of Rigid Pavement Systems		
Justification	Rising Seawater levels and other nuisance flooding continues to impact Florida’s roadways. The Governor has asked the Department to improve the resilience of Florida’s transportation system. Rigid pavements are often constructed in areas with increased truck traffic. Since prolonged closure of these roads due to flooding has a significant economic impact, traffic is often maintained on flooded roadways in some locations. It is imperative to determine the effects on rigid pavement systems subjected to flooding and maintained traffic and explore additional strategies to mitigate these effects. This study will determine implementable, cost-effective methods to improve the resilience of rigid pavement systems; with a particular emphasis on supporting layers and joint-load transfer, with respect to flooding.		
Impact	Roadways that are subjected to frequent flooding are more likely to fail early. This research will provide methods and techniques to make new and existing rigid pavements subjected to routine flooding more resilient and prolong pavement life.		
Affected Offices	Materials, Design, Construction, Maintenance.		
Existing Work	TRID was reviewed and there has been some work done on the structural evaluation of inundated pavements. It is expected that this research will consider other research and recommend practices applicable to Florida design practices and materials.		
Keywords Used In Existing Work Search (Cannot leave blank)	flooding, asphalt, pavements		
Related Contracts (Give contract numbers)	NA		
Funding Request	\$150,000	Anticipated Duration	18 months
Project Manager	TBD	Contracting Method	RFP
Urgency	Score: 2	The results of this project will minimize road closures and repairs of rigid pavements due to flooding.	
Implementability	Score: 3	It is speculated that the research will focus primarily on increased resiliency of rigid pavement supporting layers. Therefore, research findings will most likely be implemented during new construction and reconstruction rather than maintenance and rehabilitation.	
Project Benefits (Succinct, complete explanation)			
This project will improve the durability and resiliency of rigid pavement systems to better resist deterioration due to flooding. Of special importance is to improve the longevity of these pavements that are trafficked while flooded.			

Project Benefits (Select all that apply and explain)	Quantifiable Benefits (units, dollars, etc...if applicable)	Methodology or Data Sources Used to Determine Quantifiable Benefits. If not applicable, please give justification of project benefits
○ Materials Enhancement	Longer lifespan, less rehabilitation cycles, less roadway closures.	The research will recommend which material/construction enhancements are better able to resist damage due to flooding. The research may be able to give an estimation of the improved lifespan of more durable pavements.
○ Materials Savings	Not applicable.	
○ Time Savings	Less resurfacing cycles.	Less disruption to the public if rehabilitation cycles are less frequent and roadway closures are minimized.
○ Lives Saved/Injuries Prevented	Not applicable.	
○ Other (Explain)		

*Comments should explain and support urgency, financial benefit, and implementability scores