

Request for Research Funding for FY 2019-2020

Requesting Office	State Materials Office	Priority #4	# 3 of 11
Proposed Title	Performance Evaluation of SP-9.5 and SP-12.5 Superpave Mixtures		
Justification	The proposed project involves comparing the performance of SP-12.5/FC-12.5 and SP-9.5/FC-9.5 Superpave asphalt mixtures. Currently, specifications do not allow the use of SP-9.5/FC-9.5 mixtures in traffic level D and E applications. The purpose of the research is to determine if the mixtures are equivalent in terms of cracking and rutting resistance.		
Impact	If the research shows the performance of the SP-9.5/FC-9.5 mixtures are equivalent to SP-12.5/FC-12.5 mixtures, a specification change would be made to allow the use of SP-9.5/FC-9.5 mixtures in traffic level D and E applications. If the research is not performed, benefits of smaller aggregate size mixtures (e.g., lift thickness, availability, etc.) will not be realized.		
Affected Offices	Materials, Construction, Maintenance, and Design.		
Existing Work	Existing work has not been completed using Florida specific aggregates, asphalt binders, and mix designs.		
Keywords Used In Existing Work Search (Cannot leave blank)	Asphalt mix design. Superpave mix design. Type SP-9.5 mm asphalt. Type FC-9.5 mm asphalt. Asphalt cracking resistance. Asphalt rutting resistance.		
Related Contracts (Give contract numbers)	None.		
Funding Request	\$200,000.	Anticipated Duration	Estimated length of time to complete work 18 months.
Project Manager	Wayne A. Rilko	Contracting Method	Anticipated procurement method. RFP to all registered vendors.
Urgency	3	<p>If the research is not performed, benefits of smaller aggregate size mixtures will not be realized. For instance, lift thickness.</p> <p>From the current specifications, the lift thicknesses for SP mixes are as follows: SP-9.5 = 1 to 1-1/2 inches SP-12.5 = 1-1/2 to 2-1/2 inches</p> <p>Friction courses lift thicknesses are generally: FC-9.5 = 1 inch FC-12.5 = 1-1/2 inches</p> <p>The outcome is needed as soon as possible to determine the best use of our aggregate resources.</p>	
Implementability	1	<p>If the research shows the performance of the SP-9.5/FC-9.5 mixtures are equivalent to SP-12.5/FC-12.5 mixtures, in terms of cracking and rutting resistance, the results are fully implementable. A specification change would be made to allow the use of SP-9.5/FC-9.5 mixtures in traffic level D and E applications. If they do not perform as well, the research would confirm the limitations imposed in the current specifications. Traffic level D and E roads make up approximately 30% of the FDOT's network.</p>	
<p>Project Benefits The purpose of the research is to determine if the SP-9.5/FC-9.5 mixtures are equivalent to SP-12.5/FC-12.5 mixtures in terms of cracking and rutting resistance.</p> <p>If the research shows the performance of the SP-9.5/FC-9.5 mixtures are equivalent to SP-12.5/FC-12.5 mixtures, a specification change would be made to allow the use of SP-9.5/FC-9.5 mixtures in traffic level D and E applications. If the research is not performed, benefits of smaller aggregate size mixtures (e.g., lift thickness, availability, etc.) will not be realized.</p>			

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		If the SP-9.5/FC-9.5 mixtures provide performance equivalent to SP-12.5/FC-12.5 mixtures, these mixtures could be used in traffic level D and E applications.
○ Materials Savings		If the research is not performed, the benefits of smaller aggregate size mixtures (e.g., lift thickness, availability, etc.) will not be realized.
○ Time Savings		None.
○ Lives Saved/Injuries Prevented		Lower cost per lane-mile for resurfacing may increase the number of lane-miles of new friction course placed each year.
○ Other (Explain)		None.

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