Request for Research Funding for FY 2022-2023			
SPR Subpart B Project: SMO-23-10			
Requesting Office	State Materials Office (SMO)	**Priority**	10 of 10
Proposed Title	Evaluation of the Appropriate Refractive Index for Pavement Marking Visibility		
Justification	Inconsistent results of the current testing methods have led the FDOT to seek a more precise method for evaluating the wet-weather performance of pavement marking materials. The project personnel will develop a device and corresponding testing method for the performance evaluation and determine a reliable relationship between the developed method and glass bead refractive index (RI).		
Impact	If successful, the developed method enables precise monitoring of the wet-weather performance of pavement markings. This will allow the department to improve wet-weather safety by implementing better performing marking materials and maintaining the materials at the appropriate time.		
Affected Offices	Safety, Design, Materials, and Maintenance		
Existing Work	N/A		
Keywords Used In Existing Work Search	Mobile Retro-reflectometer Unit (MRU), Retro-reflectivity, Refractive Index (RI), Pavement Marking, Wet-weather Visibility		
Related Contracts	N/A		
Funding Request	$150,000	**Anticipated Duration**	18 months
Project Manager	Guangming Wang	**Contracting Method**	RFP to all registered vendors
Equipment	N/A	N/A	
Urgency	1	If the test protocol is successfully developed, it will allow the Department to evaluate the retroreflectivity performance of pavement markings under wet-weather conditions, and thus select the right products for production and maintenance	
Implementability	1	A Florida test method will be developed to implement the developed test protocol.	
Project Benefits	Selection of the appropriate retroreflectivity of pavement markings will enhance the public safety		
Project Benefits	**Quantifiable Benefits**	**Methodology or Data Sources Used to Determine Quantifiable Benefits. If not applicable, please give justification of project benefits**	
○ Materials Enhancement			
○ Materials Savings			
○ Time Savings			
○ Lives Saved/Injuries Prevented			
• Other (Explain)	Testing Precision	An improved testing precision enables the department to monitor the wet-weather performance of the pavement marking properly. The testing precision will be identified in accordance with the ASTM C670.	

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