Request for Research Funding for FY 2019-2020			
Requesting Office	Florida's Turnpike Enterprise (FTE)	**Priority** Medium	7 of 8
Proposed Title	Study of Operational and Safety Impacts of Disabled and Abandoned Vehicles on FTE Roadways		
Justification	According to the FDOT Road Ranger Performance Measures Annual Report (July 1, 2015 to June 30, 2016), Florida Road Rangers responded to approximately 250,000 events caused by disabled or abandoned vehicles (about 72% of all events during this period). These events can cause significant operational and safety impacts to travelers, responders, and traffic management center (TMC) operators, including crashes, congestion, and time spent observing and responding to these events. Quantifying these impacts and identifying improved methods of handling these events can help improve travel and safety for roadway users and reduce time spent by responders and TMC operators.		
Impact	Identifying the impacts of disabled and abandoned vehicles on FTE roadways will help FTE understand the characteristics of these events and improve practices and procedures regarding the handling of these events. Recommendations will be made on the best operational changes which can reduce the impacts of these events to travelers, responders, and TMC operators. These recommended practices could also be expanded to other FDOT districts.		
Affected Offices	This research will focus on FTE roadways, but the results and improved practices from this study could be used by other FDOT districts to reduce the impacts of disabled and abandoned vehicles.		
Existing Work	While a thorough literature review will be conducted as part of this study, some existing work on disabled and abandoned vehicles were found. Studies on the impacts of disabled and abandoned vehicles: Chimba, D., B. Kutela, G. Ogletree, F. Horne, and M. Tugwell. Impact of Abandoned and Disabled Vehicles on Freeway Incident Duration. *Journal of Transportation Engineering*, Vol. 140, Issue 3, March 2014. Study on various response procedures for disabled and abandoned vehicle events: Dougald, L. E., N. J. Goodall, and R. Venkatanarayana. Traffic Incident Management Quick Clearance Guidance and Implications. Virginia Department of Transportation Final Report No. FHWA/VTRC 16-9, Virginia Transportation Research Council, Charlottesville, VA, February 2016. The following additional documents pertaining to Florida policies and programs to respond to disabled and abandoned vehicle events were also found: State of Florida Open Roads Policy Agreement, January 2014. http://www.fdot.gov/traffic/Traf_Incident/pdf/Open_Roads_Policy_FDOT_FHP.pdf. Rapid Incident Scene Clearance (RISC) Annual Report Fiscal Year 2016/2017, FDOT, August 2017. http://www.floridatim.com/documents/RISC/Rapid%20Incident%20Scene%20Clearance%20(RISC)%20FY16-17%20%20Annual%20Report%20-%20Final.pdf.		
Keywords Used In Existing Work Search **(Cannot leave blank)**	Abandoned Vehicle, Disabled Vehicle, Highway, Freeway		
Related Contracts (Give contract numbers)	None		
Funding Request	$199,999	**Anticipated Duration**	21 months (18 months study + 3 months reporting)

Project Manager	Eric Gordin, P.E. co-PM: Shawn Kinney, TEO	**Contracting Method**	Direct Contract with University (PI is Dr. Haitham Al-Deek, UCF)
Urgency	1	Disabled and abandoned vehicles make up a large portion of the events Road Rangers respond to. These events cause significant safety and operational impacts, including crashes, congestion, and time spent by responders and operators tracking and responding to the events. For instance, there were multiple crashes involving parked vehicles on FTE roadways in 2017. By reducing the impacts of disabled and abandoned vehicles, FTE can provide safer travel for their customers and reduce unnecessary time spent by responders and TMC operators.	
Implementability	1	Using the results of this research, FTE (and other FDOT districts) can identify the frequency, potential mitigating factors, and impacts of disabled and abandoned vehicles to better understand these events. Improvements to existing handling procedures, as well as new practices identified during this project, can be implemented by FTE and FDOT to reduce the impacts of these events.	

Project Benefits (Succinct, complete explanation)

This project will quantify the safety and operational impacts of disabled and abandoned vehicles on FTE roadways, including the impacts of crashes, congestion, and response. Existing handling procedures and procedures used by other Florida agencies and other states will be examined to identify new procedures and/or improvements to existing practices. Implementing these new procedures and improvements will help reduce the impacts of the events, saving time for travelers and responders and reducing crashes caused by disabled and abandoned vehicles.

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**
o Materials Enhancement		
o Materials Savings		
o **Time Savings**		By analyzing disabled and abandoned vehicle events and reviewing existing response procedures in Florida and other states, ways to reduce response time to these events can be identified. These improvements saving time for travelers (by reducing congestion), responders, and TMC operators.
o **Lives Saved/Injuries Prevented**		Reducing the response time to disabled and abandoned vehicles can reduce the chance of crashes occurring due to these vehicles, preventing potential injuries or fatalities. Therefore, supporting this research is very important because it saves lives.
o Other (Explain)		

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