Request for Research Funding for FY 2024-2025			
Project Number (Research Center Use Only): D7-25-01			
Requesting Office	Districts 7 and 5	**Priority**	1 of 1 (projects may not have the same ranking – no ties)
Proposed Title	Integrated Approaches to Establishment, Mowing, and Weed Control for Florida Roadside Turfgrasses		
Justification	This research is needed to improve the resiliency of roadsides and medians. Many of the FDOT roadsides and medians are inundated with undesirable vegetation and invasive species which do not support a healthy turfgrass canopy. Updated turf management studies and recommendations to field maintenance units, maintenance contract units, and consultants will provide guidance on what to do to support and sustain a healthy turfgrass canopy. Further research is needed to address key roadside vegetation management priorities identified by the Florida Department of Transportation (FDOT) District 5 and District 7 representatives. Specifically, three areas requiring additional study were highlighted: 1. Establishing and maintaining high quality turfgrass stands along roadsides with sandy, low nutrient soils. Research evaluating best practices for soil preparation and nutrient management is needed to improve establishment and maintenance of roadside turfgrasses in these conditions. 2. Optimizing mowing practices including height and frequency of cut to balance turfgrass stand quality and appearance with mowing costs and impacts on Maintenance Rating Program (MRP) scores. Study is required to determine ideal mowing regimes for common Florida roadside turfgrasses. 3. Improving management of problematic weeds and invasive species such as cogon grass through integrated cultural and chemical control methods. Research on best practices for controlling prolific weeds in roadside settings without excessive herbicide usage is needed. By targeting these three priority areas identified by key FDOT stakeholders, the proposed research will directly address needs in roadside vegetation management across Florida. The results will provide practical guidance to improve roadside turfgrass performance, weed control, and maintenance efficiency for FDOT.		
Impact	This research aims to directly improve roadside vegetation management practices used by the Florida Department of Transportation (FDOT) districts. By identifying best practices for turfgrass establishment, mowing, and weed control, the results can be implemented to enhance the quality and appearance of roadside landscapes. This will lead to higher Maintenance Rating Program (MRP) scores for the managed areas. Additionally, the research will provide guidance to reduce common issues like poor turfgrass growth, weed encroachment, and thinning stands requiring frequent renovation and repair. Implementing the optimized establishment, mowing, and weed control strategies from this research has the potential to reduce costs from excessive reestablishment and maintenance of problematic areas. In summary, the proposed work can positively impact FDOT districts by improving roadside landscape quality, reducing repairs and rework, and increasing efficiency and sustainability of roadside vegetation management programs. The research outcomes will provide practical solutions that translate directly to improved field operations and higher standards for roadside landscapes across Florida.		
Affected Offices/ Districts	Office of Maintenance, District Maintenance Offices, Deputy District Maintenance Administrators, District Roadside Coordinators, Operation Centers Area Managers		
Existing Work	A review of the Research in Progress (RiP) Database and the Transportation Research International Database (TRID) was conducted to ensure the proposed research effort on management of roadside vegetation in Florida would not duplicate prior or ongoing work. While a project investigating the use of composts for establishing roadside vegetation was identified, this research was completed in Minnesota under different soil conditions, climate, and target vegetation. As such, it is not directly applicable to the needs of the Florida Department of Transportation (FDOT). No other similar or duplicative work conducted specifically in Florida was found through searching the RiP and TRID databases. Therefore, the proposed research appears to fill a gap rather than duplicating existing efforts.		

Keywords Used In Existing Work Search **(Cannot leave blank)**	Establishment, Renovation, Repair, Turf, Vegetation, Herbicide, Mulch, Compost		
Related Contracts (Give contract numbers)	Not applicable		
Funding Request	$450,000 ($150,000/year for 3 years)	**Anticipated Duration**	3 years
Project Manager	Anita Montjoy	**Contracting Method**	Direct contract with University of Florida
Equipment	Estimated equipment cost (or N/A)	Heavy equipment from Districts 5 and 7 Operation Centers will incur zero costs.	
Urgency	3	As time progresses, the condition of the state right-of-way turfgrass canopy will continue to deteriorate and become more infested with undesirable weeds and invasive species. Re-evaluating best turf management practices and educating stakeholders responsible for its maintenance will preserve and improve turf conditions.	
Implementability	Score 1-5 1=greatest likelihood of and proximity to implementing results	The probability of implementation is high. Department stakeholders engaged in roadside vegetation working with scientists and professors from state college universities guarantee an outcome that benefits the Department. Multiple phases for this research would be required due to test plot planting schedules, treatment schedules, tracking results, and developing recommendations for the Department.	

Project Benefits (Succinct, complete explanation)

This research has potential to provide FDOT with more sustainable, efficient roadside vegetation management that improves landscape quality and reduces long-term costs. Specific benefits include:

- Improved establishment and maintenance of roadside turfgrasses, resulting in healthier, higher quality stands with greater resistance to environmental stresses
- Guidance on optimal mowing practices to balance turfgrass appearance and MRP scores with labor and costs
- Reduced reliance on herbicide usage through integrated weed control strategies
- Lower costs from renovating/re-establishing failed turfgrass areas by following best establishment and maintenance practices
- Enhanced efficiency in roadside vegetation management programs based on evidence-based best practices
- Increased sustainability of roadside landscapes through optimized turfgrass, mowing, and weed control practices
- Higher standards for roadside vegetation and landscapes on Florida's transportation corridors
- Practical solutions implemented by FDOT districts to directly improve roadside maintenance operations and outcomes

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	Not quantifiable	Data on best turfgrass varieties, soils, and nutrients will enhance establishment and growth, reducing material costs for repeated re-establishment.

○ Financial Impact	Not quantifiable	Savings will be realized through reduced re-establishment costs and improved mowing/weed control practices
○ Time Savings	Reduction of mowing cycles in acres	Reduce turfgrass re-establishment time by following optimized soil preparation and establishment guidelines.
○ Lives Saved/Injuries Prevented	Not quantifiable	Improved roadside vegetation management will enhance driver visibility and reduce distracted driving hazards.
○ Other (Explain)	Not quantifiable	Higher Maintenance Rating Program scores and improved roadside landscape quality through sustainable best practices for turfgrass establishment and management. The research will collect agronomic, ecological, and economic data on establishment, mowing, and weed control practices to model and identify optimal protocols. These quantified best practices will then be shared with FDOT districts to implement, resulting in the impacts described above.

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