

Project Information Form

Project Title	Full-Scale Wall of Wind Testing of Variable Message Signs (VMS) Structures to Develop Drag Coefficients for AASHTO Supports Specifications
University	Florida International University
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Funding Source(s) and Amounts Provided (by each agency or organization)	Georgia Institute of Technology FIU: \$90,000 UTC + \$90,000 Matching UAB: \$70,000 UTC + \$70,000 Matching
Total Project Cost	\$160,000.00 + \$160,000 Matching
Agency ID or Contract Number	AWD00000002293
Start and End Dates	1/8/12 to 1/31/14
Brief Description of Research Project	The overall scientific objective of this project is to develop accurate drag coefficients for incorporation in the AASHTO Support Specification to foster safer and more economic design of VMS structures. This project will facilitate the development of new and separate drag coefficients for fatigue design under service load conditions and ultimate strength design under extreme wind conditions.
Describe Implementation of Research Outcomes (or why not implemented) (Attach Any Photos)	Phase 1 testing on large-scale VMS models was completed. Testing was done at the Wall of Wind facility under fatigue level wind speed. Load cells were used to measure aerodynamic loading. Drag coefficients are being analyzed from the data. Photos of the test setup are given below: 

Impacts/Benefits of Implementation (actual, not anticipated)	The expected significance and benefits of the research results is attributed to: (i) possible economic benefits that can be realized when using large-scale test-based realistic drag coefficients for fatigue and extreme wind and rain, (ii) development of realistic design loads on critical ITS infrastructure, and (iii) advancement of fundamental knowledge of 3D sign structure aerodynamics.
Web Links <ul style="list-style-type: none">• Reports• Project website	