



Research & Development

ALABAMA DEPARTMENT OF TRANSPORTATION



Current Research Projects

Project	Project Title
931-080	GIS-Based Environmental Long-Term Monitoring Web Portal Phase III
931-078	Safety Performance of Pavement Marking Retroreflectivity in Alabama
931-077	Laboratory and Computational Evaluation of Mast Arms Under Torsion and Lateral Loading
931-074	Unmanned Aerial Systems for Determining Vegetative Establishment on ALDOT Construction Sites
931-072	Designing and Evaluating Infiltration Swales for Retaining and Infiltrating Roadway Stormwater Runoff
931-071	Development of a Worker Safety Assessment, Risk Identification, and Control Program for ALDOT
931-069	Ultra-High-Performance Concrete for The Alabama Transportation Industry
931-067	Development of Tools & Procedures for Post-Fire Assessment of Concrete Bridges in Alabama
931-066	Balanced Mix Design Field Trial Projects in Alabama
931-065	Determining the Average Available Workdays for ALDOT Construction Projects
931-063	Develop a Tool for Sight Distance Analysis Using GIS and LiDAR Data
931-059	Vegetation Management Research Program for Alabama's Highway Rights-of-Way
931-056	Managing the Traffic Impacts of Highway Infrastructure Constructions: A Framework for Construction Planning
931-055	Development of Traffic Video Analysis Tool for Highway Safety Performance Evaluation
931-054	Geotechnical Health Monitoring and Assessment of Landslides
931-053	Implementation of OMS-Based Scour Prediction and Real-Time Monitoring of Scour Processes for Alabama Bridges
931-052	Evaluation of Alabama Limestone Sources for Use as Pavement Aggregate Base
931-051	Development of Jobsite Cylinder Curing Practices for The Alabama Concrete Industry
931-050	Research the Application of GeoGIS in Support of ALDOT Geo-Referenced Documents
931-049	Assessment of Residual Strength of Bridge Superstructure Subject to Fire Loading
931-048	Characterization of Key Asphalt Mixtures for AASHTOWare Pavement-ME Design
931-047	Performance Characterization of an Ultra-High Performance Concrete Deck Connection for Alabama Bridges

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- 931-046** Use of Titanium-Alloy Reinforcement to Strengthen Bridges in Alabama-Phase 1: Laboratory Testing and Analytical Investigations
- 931-045** A Method of Maximum Thickness for Flexible Pavement Design
- 931-037** Impact of Permit Vehicles on Bridges and Pavements in Alabama
- 931-026** Proactive Traffic Incident Management in Alabama
- 931-020** Queuing Detection & Warning Systems
- 931-019** Development of an Ultra-High Performance Concrete H-Pile and It's Connection for Alabama Foundations
- 931-017** Best Practices for Construction Site Stormwater Treatment Using Flocculants
- 931-016** Evaluation of ALDOT Erosion Control Practices Using Rainfall Simulation on Various Soil Types and Slope Gradients
- 931-015** Local Verification of AASHTOWARE Pavement ME Design for Flexible Pavement
- 931-006** Predicting Pavement-Weather to Support Winter Weather Operations in Alabama
- 931-005** GIS-Based Environmental Long-Term Monitoring Web Portal Phase II
- 930-994** Structural Pavement Design Advancement in Alabama Phase I: Software Development and Design Input Assessment
- 930-989** Characterization of Concrete Creep and Shrinkage of the Birmingham I-59/I-20 Segmental Bridge
- 930-984** Development of Conservation Plans for Gopher Tortoises in Alabama via Long-Term Demographics and Modeling
- 930-979** Incorporating Cracking Parameters Determined from ALDOT-361 Test Procedure into Specifications for Asphalt Mix Design and Production
- 930-976** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program FY 2017
- 930-972** Condition Assessment of Steel Box Girder Bridge Using Long-Term Field Measurements
- 930-961** Determining Bearing Stress for MSE Retaining Structures
- 930-960** Development of a Construction Inspection Management System (CIMS) Integrated with Mobile Devices with a Temporary Traffic Control Application
- 930-958** Comparison of RFIT and GPR NDT Methods for Identifying Sub-Surface Damage Detection in Concrete Bridge Decks
- 930-957** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program FY 2017
- 930-954** Vegetation Management of Alabama Highway Right of Ways
- 930-943** Maintenance of the Alabama Department of Transportation Traffic Signal Design Manual
- 930-939** Comprehensive Study on the Behavior of Steel Girder Bridges
- 930-935S** Urgent Mitigation of Major Surge and Wave Force Damage in the I-10 Mobile Bay-Way Bridges Using an Energy-Dissipative Elastomeric Hybrid Composite (HMC)
- 930-930** Development of Cracking Condition Assessment System for Concrete Bridge Decks Using Image Processing Techniques
- 930-927** Analysis of The Study and Mobility Benefits of Queue Warning Systems in Alabama Work Zones
- 930-926** Construction Locked-In Force Effects Due to Different Cross-Frame Detailing Methods, Phase I: Field Evaluation
- 930-924** Effects of Pile Embedment Length on the Connection Behavior and Precast Pile Footing
- 930-922** Development of the ALDOT Traffic Simulation Manual
- 930-921** Seismic Connection Bridge Detail for Across-the-Board Soil Site Class

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- 930-912** Self-Centering Connections for Traffic Sign Structure: Phase II, Large-Scale Subassembly Test
- 930-907** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program FY 2015
- 930-903** Stability of Horizontally Curved I-Girder Bridges During Early-Stage Construction
- 930-875** University of Alabama at Birmingham (UAB) - University Transportation Centers (UTCs): Research Projects - Round 2, (8 projects total)
- 930-867** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program
- 930-866R** Evaluation of Remediation Strategies for Shrink-Swell Clays in Western Alabama
- 930-857** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program
- 930-847** Life Cycle Cost in Alabama Department of Transportation (ALDOT) Infrastructure Projects
- 930-846** Life Cycle Cost Analysis for Pavement Type Selection
- 930-843** University Transportation Centers (UTCs) - Regional: University of Alabama with University of Florida, (5 projects total)
- 930-842** University Transportation Centers (UTCs) - Tier I: University of Alabama with Georgia Institute of Technology, (7 projects total)
- 930-841R** Monitoring the Coastal Processes in the Vicinity of Little Lagoon Pass
- 930-824R** Evaluation of Diverging Diamond Interchange (DDI) for Alabama, Phase I
- 930-822P** Accelerated Performance Testing for the 2012 NCAT Pavement Test Track
- 930-818** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program
- 930-817R** GeoGIS Transition to Alabama Department of Transportation (ALDOT)
- 930-816R** GRS-IBS Implementation Assistance and Monitoring
- 930-813R** Design of Overhead Sign Support Structures to Mitigate Wind-Induced Fatigue Loads
- 930-812** Load and Resistance Factor Design (LRFD) for Deep Foundations with Reliability Analysis and Design Method Calibration
- 930-811R** Vegetated Filter Strip Performance Evaluation for Cost-Effective Roadway Runoff Treatment in Alabama
- 930-809R** Contraflow Evacuation Planning for I-65 in Alabama
- 930-805** Evaluation of Asphalt Mixtures Containing Recycled Asphalt Shingles-Phase I
- 930-804** Evaluation of Non-Tracking Hot Applied Polymerized Tack Material for Use with Open-Graded Friction Course (OGFC)
- 930-801** Department Drilling and Traffic Control Services for the "Highway Research Center's Evaluation of Causes of Pavement Distress in US 331 in Montgomery County, AL"
- 930-795** Evaluation of an Asphalt Rubber Mixture in Alabama
- 930-794** Evaluation of Alabama Department of Transportation's Quality Assurance Testing Program and Pay Assessment Schedules for Asphalt Mixtures
- 930-790** Improvement of Open-Graded Friction Course in Alabama
- 930-786** Vegetation Management for Alabama Right-of-Ways
- 930-785** Pilot Project: Retaining Walls Inventory and Inspection
- 930-784** Maintaining Vegetation for Long-Term Erosion Control on Disturbed Slopes
- 930-781** Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program

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- 930-777** Mitigation of Cracking of Cast-In-Place Culverts in Alabama
- 930-773R** Assessment of Long-Time Behavior for Bridge Girders Retrofitted with Fiber Reinforced Polymer (FRP) Using Accelerated-Time Concepts
- 930-772** Pilot Car Driver Certification Program
- 930-767** Agronomic Solutions for Establishment of Roadside Vegetation
- 930-765** FY 2009, Technology Transfer Program for Local Transportation Agencies in Alabama
- 930-763P** Superpave Regional Center, Southeastern Region
- 930-761** Development of a Ride Quality Smoothness Specification and Technology Evaluation Program at the NCAT Pavement Test Track
- 930-755** Evaluation of Driver Perceptions and Safety Impacts of Innovative Use of Internally Illuminated, Raised Pavement Markers
- 930-754P** 2009 NCAT Pavement Test Track
- 930-751** Techniques for Establishing Vegetation for Long-Term Erosion Control on Disturbed Slopes
- 930-748** FRP Strengthening of Continuous RC Bridge-Letohatchee, Alabama
- 930-737** Rapid Replacement of Bridge Decks - Phase IV: Structural Performance of I-59 Pilot Deck Systems
- 930-726** Feasibility Study Guidelines for Public Private Partnership Projects
- 930-715** Investigation of Recycled Asphalt Pavement and Recycled Shingle Pavement Characterization Procedure & Development of Specification for Recycled Asphalt Pavement
- 930-710** Traffic Analysis and Simulation
- 930-707P** LTAP 2007 Program
- 930-705** Development of Multimedia Resource and Short Courses for LRFD Design
- 930-688S** Evaluation of High-Performance Drilled Shaft Concrete on the B.B. Comer Bridge
- 930-678** 2006 Local Technical Assistance Program (LTAP) Center, Alabama Technology Transfer Program
- 930-677** Development of Retrofit Options for Bridges Vulnerable to Coastal Storms
- 930-668S** Axial Load Testing of Drilled Shaft Foundations
- 930-667P** Consortium of Accelerated Pavement Testing (CAPT) and Technical Exchange Partnership
- 930-662A** Bridge Health Monitoring Metrics: Updating the Bridge Deficiency Algorithm
- 930-642M** Lead State for Reducing Signalized Intersection Crashes
- 930-613** Development of Cost-Effective VARTM Technology for Repair and Hardening - Design Method and Specification for ALDOT Contractor - Phase I