

BDV31-977-107/ UF P0116307
 Technology Transfer Support 2019
 Contract Period: March 1, 2019 – May 31, 2022

Report 13
 Period: March 1, 2022 – May 31, 2022

Work Performed during the Report Period

Mr. Charles Brown continues in the role of Technology Transfer Coordinator.

Summary of Contract Activities

| | | Mar 2022– May 2022 | Year-to-date 2019-2022* | Year-to-date 2018-2021** |
|--|---------------------------------------|-----------------------|----------------------------|-----------------------------|
| Task 1 | Editorial reviews completed | 10 | 160 | 160 |
| Task 2 | Summaries submitted but not finalized | 7 | 13 | 18 |
| | Summaries finalized | 14 | 151 | 151 |
| | Rotator slides | 7 | 151 | 162 |
| Task 3 | T2 Digital Media Archive – additions | | | |
| | – Photographs | 25 | 2,230 | 2,063 |
| | – Graphics | 0 | 0 | 0 |
| | – Video | 0 | 0 | 0 |
| | -- Presentations | 0 | 4 | NA |
| Task 4 | <i>Research Showcase</i> | | | |
| | – Interviews conducted | 0 | 0 | 0 |
| | – Articles reviewed/revised | 0 | 0 | 1 |
| Task 5 | Collateral Production | | | |
| | – Material produced | 0 | 0 | 3 |
| | – Interviews conducted | 0 | 0 | 4 |
| | – Material reviewed | 0 | 0 | 2 |
| * Feb 2019–May 2022 | | | | |
| ** Mar 2018–Feb 2021: Includes the first nine quarters of the current contract for comparison of a similar term of activity. | | | | |

Task 1. Draft Final Report Editorial Review

Editorial reviews were completed for the following projects.

- BDV25-977-69 Identification of the Mechanisms that Produce Hydrogen Embrittlement on Post-tensioning Members and the Effects of Galvanic Coupling on Bridge Tendons
- BDV29-977-62 Guidelines for Activating Ramp Meters during Off-peak Hours and Weekends

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|---------------|--|
| BDV30-977-30 | Development of a Resilience Index for the Florida Surface Transportation System |
| BDV31-977-116 | Bigdata Analytics and Artificial Intelligence for Smart Intersections |
| BDV31-977-125 | Assessing Axial Capacities of Auger Cast Piles from Measuring While Drilling |
| BDV31-977-93 | Flexural Capacity of Concrete Elements with Unbonded Prestressing |
| BE725 | Evaluation of FDOT Corrosion Prevention and Control Programs |
| BE975 | Developing Safety Performance Function (SPF) and Crash Modification Factor (CMF) for Managed Lanes Separation Treatments |
| BEA90 | Design and Detailing of Anchorages for Externally Bonded CFRP |
| ---- | Large Reinforcing Bars Spliced in Ultra-High Performance Concrete (special request) |

Task 2. Research Summary and Rotator Slide Development

Research summaries were written, illustrated, and laid out in cooperation with the FDOT Research Center. Completed research summaries may be accessed at <http://www.fdot.gov/research/documents.shtm>.

Rotator images may be viewed at <http://www.fdot.gov/research/>.

Summaries submitted but not finalized:

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|---------------|--|
| BDV25-977-59 | Durability of Cementitious Systems Incorporating Calcined Low-Grade Kaolin Clays |
| BDV30-977-23 | Evaluation of Connected Vehicle Applications on Mahan Corridor, Phase II |
| BDV30-977-32 | Transportation-related Behaviors and Attitudes: A Survey of Florida's Aging Road Users |
| BDV31-977-115 | Transportation Mobility Assessment and Recommendations for Smart City Planning |
| BDV31-977-117 | Data Analytics and Evaluation of the Gainesville Trapezium Connected Vehicle Signal Phasing and Timing (SPAT) Deployment Project |
| BDV31-977-122 | In-service Assessment of Road Sinkholes with 2D Ambient Noise Tomography |
| BDV31-977-71 | Shear Behavior of Webs Post-Tensioned with Tendons Containing Flexible Fillers |

Summaries finalized:

| | |
|--------------|---|
| BDV24-977-28 | Effect of Real-time Traffic Data on Truck Diversion Routing on I-75 |
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|---------------|--|
| BDV25-977-63 | Correlation of Slag Cement Composition with Durability of Portland Cement - Slag Concrete |
| BDV25-977-66 | Prioritized Safety Consideration by Work Zone Types and Pilot Implementation |
| BDV29-977-44 | Accelerated Corrosion Testing of Grouts for PTI Steel Strand |
| BDV29-977-48 | Strategies to Identify and Mitigate Secondary Crashes Using Real-Time Traffic Data on Florida's Turnpike |
| BDV30-977-29- | Feasibility Analysis of Real-time Intersection Data Collection and Processing Using Drones |
| BDV31-977-109 | Extended Development and Testing of Optimized Signal Control with Autonomous and Connected Vehicles |
| BDV31-977-117 | Data Analytics and Evaluation of the Gainesville Trapezium Connected Vehicle Signal Phasing and Timing (SPaT) Deployment Project |
| BDV31-977-123 | Evaluating the Connection Between Transit and TNCs (Transportation Network Companies) in Pinellas County for Statewide Application |
| BDV31-977-129 | MASH Validation Testing of Low-Profile Barrier |
| BDV31-977-133 | Florida ATMA Pilot Demonstration and Evaluation |
| BDV31-977-136 | Testing Methods for the Next Generation of Concrete |
| BDV34-977-12 | Development of FDOT SERF and RETA Design Equations for Coastal Scour When a Single Vertical Pile is Subjected to Wave Attack |
| BE703 | Development of Low Voltage/Extended Runtime Signalized Intersection Using Backup Power after the Loss of Utility Power Due to Hurricanes |

Rotator slides were provided for the following projects:

| | |
|---------------|--|
| BDV25-977-59 | Durability of Cementitious Systems Incorporating Calcined Low-Grade Kaolin Clays |
| BDV30-977-23 | Evaluation of Connected Vehicle Applications on Mahan Corridor, Phase II |
| BDV30-977-32 | Transportation-related Behaviors and Attitudes: A Survey of Florida's Aging Road Users |
| BDV31-977-115 | Transportation Mobility Assessment and Recommendations for Smart City Planning |
| BDV31-977-117 | Data Analytics and Evaluation of the Gainesville Trapezium Connected Vehicle Signal Phasing and Timing (SPaT) Deployment Project |

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|---------------|--|
| BDV31-977-122 | In-service Assessment of Road Sinkholes with 2D Ambient Noise Tomography |
| BDV31-977-71 | Shear Behavior of Webs Post-Tensioned with Tendons Containing Flexible Fillers |

Task 3. T2 Digital Media Archive

The archive now contains 14,822 photos (62.0 GB), 44 graphics (131 MB), and 6 videos (541 MB; approximately 2 hours, 20 minutes), and 4 PowerPoint presentations (21 MB).

Images from the T2 Digital Media Archive were used in the following finalized online summaries:

- | | |
|---------------|--|
| BDV25-977-59 | Durability of Cementitious Systems Incorporating Calcined Low-Grade Kaolin Clays |
| BDV31-977-117 | Data Analytics and Evaluation of the Gainesville Trapezium Connected Vehicle Signal Phasing and Timing (SPaT) Deployment Project |

Task 4. Research Showcase Magazine

No work on Research Showcase during this period.

Published *Research Showcase* issues prior to May 2017 may be viewed at http://www.fdot.gov/research/Publications_and_Media.shtm.

Task 5. Collateral Production

In December 2021, a large poster was produced in PDF format for the Transportation Research Board Annual Meeting in January 2022.

Work to be Performed Next Quarter

The contract ended on May 31, 2022.