VDOT Support of MATS UTC Technical Transfer and Outreach Activities

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Disclaimer

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PROBLEM

In this part of the report, we document the “Other Efforts” included in this year’s MATS UTC VCTIR Match Project including the MATS UTC Symposium held May 6, development and delivery of two one-day professional training workshops, additional outreach efforts including participation in the VDOT Northern Virginia Career Fair and participation in TRB’s International Transportation Sustainability Conference, and the administration of this project grant along with the federal MATS UTC grant.

APPROACH

Following the approved proposal and the approved and revised budgets, we performed the activities specified and budgeted.

METHODOLOGY

In this section, we describe each of the non-research areas and specific activities undertaken this year with the support of the VCTIR MATS UTC Match Project.

MATS UTC Symposium May 6

On Tuesday, May 6 we presented a Symposium entitled, Green and Blue Highways: Environmental Sustainability Best Practices for Transportation. We used the Virginia Tech Executive Briefing Center at 900 North Glebe Road in Arlington. The Symposium was organized by Elise Barella of James Madison University who had a subaward to conduct the symposium, invite speakers, pay honorariums including travel, and pay for the Virginia Tech facility.

The Symposium featured eight speakers representing universities, FHWA, local agencies, and the private sector. The Symposium covered several environmental sustainability topics including measuring and monitoring, sustainability rating systems, sustainable materials and lifecycle assessment, asset management, stormwater management, and climate impacts and resiliency. More details about the Symposium can be found at the news post on the MATS UTC website: www.matsutc.org: http://www.matsutc.org/2015/04/may-6-green-and-blue-highways-symposium-2/. We also developed a flyer shown as Figure 1.

The Symposium was featured in the MATS UTC e-Newsletter released on April 1 and we sent emails to our MATS UTC list and posted details on Facebook and Twitter. Additional outreach efforts included reaching out to the Transportation Training Academy mailing list, WTS DC, ITE, Linktank, faculty at Virginia Tech North and George Mason, and other
Register Now! In-Person and Webinar Registration Available

Figure 1: Flyer for May 6 MATS UTC Symposium, Arlington

Mid-Atlantic Transportation Sustainability University Transportation Center (MATS UTC)

Green & Blue Highways: Environmental Sustainability Best Practices for Transportation
Wednesday, May 6, 2015 9:30am-4pm
VT Executive Briefing Center, 900 North Glebe Road, Arlington, VA

In-person registration link (includes breakfast and lunch): http://www.tinyurl.com/May6Reg
Webinar link for Role of Rating Systems 10am-12pm: http://www.tinyurl.com/May6Web1
Webinar link for Life Cycle and Asset Management 12:45pm-2pm: http://www.tinyurl.com/May6Web2
Webinar link for Blue Highways and Resiliency 2:15pm-4pm: http://www.tinyurl.com/May6Web3
Our website will have the most up-to-date information on speakers and subjects:
http://www.tinyurl.com/May6Webpage

DRAFT AGENDA

9:30-10:00 Registration & Light Breakfast
10:00-10:45 Introduction (MATS UTC) & Keynote Speaker (Sustainability State of the Practice – Measuring and Monitoring – Dr. Josias Zietsman, Texas Transportation Institute & Chair of TRB Transportation Sustainability Committee)
10:45-11:15 Sustainability Rating Systems: Case Studies of FHWA’s INVEST (Dr. Connie Hill, FHWA Sustainable Transport and Climate Change Team)
11:15-11:45 Sustainability Rating Systems: Role in Advancing Environmental Sustainability (Dr. Gary McVoy, McVoy Associates LLC)
11:45-12:00 Discussion
12:00-12:45 Lunch
12:45-1:15 Sustainable Materials & Lifecycle Assessment (Georgene M. Geary, GGFGA Engineering, LLC)
1:15-1:45 Managing Transportation System Health/Asset Management (Dr. Gerardo Flintsch, Virginia Tech)
1:45-2:00 Discussion
2:00-2:15 Break
2:15-2:45 Blue Highways: Transportation and Stormwater Management (Ginny Snead, Louis Berger)
2:45-3:15 Climate Impacts and Resiliency of Transportation Network (Sam Belfield, HRTPO)
3:15-4:00 Discussion: Research Needs and Transferring Research to Practice

www.matsutc.org
contacts. We used a registration and information page found on the Center for Transportation Studies website. Registration used the Transportation Training Academy database.

To accommodate people who were not able to attend the Symposium in person, we conducted three webinars throughout the day using the Adobe Connect system that VDOT supported for another project. These webinars were recorded and the archived recordings can be found on the MATS UTC website as described in the Findings section below.

**Professional Training Workshops**

With the support of this grant, we developed and delivered two one-day transportation sustainability workshops presented by the Transportation Training Academy. We solicited workshop themes from VDOT including an appeal to the Engineering Research Activities Committee and our Transportation Training Academy Needs Assessment Surveys. Based on this input we developed and delivered an *Overview of Transportation Sustainability* workshop in Charlottesville on April 17 (Dr. Emily Parkany) and an *Infrastructure Impacts of Sea Level Rise* workshop in Virginia Beach on May 5 (Dr. Venkat Sridhar, Dr. Navid Tahvildari, and Dr. Jon Goodall).

**Additional Outreach Activities**

Through the course of the year, we participate in activities related to our Center. Activities undertaken this year that were supported by the VCTIR Match Project included the Northern Virginia VDOT Career Fair and student and staff participation in the TRB, International Conference on Transportation Sustainability.

**Northern Virginia VDOT Career Fair**

With VDOT’s support we attended the 10th Annual VDOT Transportation Career Fair for High School Students in Northern Virginia on October 2, 2014. Dr. Devin Harris, Dr. Emily Parkany, and two graduate students, Mark Saliba and Lauren Bolton, attended from the University of Virginia’s Center for Transportation Studies. This was the UVA Center for Transportation Studies second visit to the fair and we enjoyed interacting with several hundred high school students, their chaperones, and other vendors. With VDOT’s support we were able to distribute car pens as depicted in Figure 2.
Participation in the TRB International Conference on Transportation Sustainability

Given our new Center and our proximity to TRB’s International Conference on Transportation Sustainability in Washington, DC, we were eager to participate. Five graduate students submitted poster abstracts for the conference and one was selected. Elizabeth Engel’s abstract: “Multimodal Transportation Facility Resilience Index” was selected and she was one of 15 domestic and international presenters. Her poster is presented here as Figure 3. Dr. Emily Parkany also attended the conference to support our graduate student and represent our Center.

Resilience of Multimodal Transportation Infrastructure Systems

Lizzie Engel and Lindsay Ivey Burden, Ph.D.
Department of Civil and Environmental Engineering, University of Virginia

High Level Infrastructure Example

Airport Resilience after Earthquake

Robustness and Vulnerability: Where Does Resilience Fit In?

Figure 3: Poster Presented at International Conference on Transportation Sustainability, May 7, Washington, DC
MATS UTC Brochure

We produced a brochure to distribute at our May events and the International Conference on Transportation Sustainability. The trifold brochure is made up of six panels as depicted in Figure 4.

Figure 4: MATS UTC Brochure May 2015

Administrative Support

The VDOT project also supported part of the efforts expended by Center Director Dr. Brian Smith, Center Managing Director, Dr. Emily Parkany, and Financial Director Elizabeth O'Donnell, in managing and administering the VDOT portions of the Center including our technology transfer and outreach efforts as described in this report and administering the research portions of the project.

FINDINGS

In this section we present the number of attendees and products from our efforts.

MATS UTC Symposium May 6

We had over 30 in-person attendees and over 50 webinar attendees for the May 6 Symposium Green and Blue Highways. Attendees included federal and local government staff, university faculty and students, and the private sector. All of the speakers were excited about participating and they expressed appreciation that their presentations and
the webinar recordings are available on the MATS UTC website: [http://www.matsutc.org/2015/05/presentations-and-recordings-for-green-and-blue-highways-symposium/](http://www.matsutc.org/2015/05/presentations-and-recordings-for-green-and-blue-highways-symposium/). The YouTube videos of the webinar recordings have been viewed 30 times over the three weeks that they have been posted. We expect this number to grow and that the number of times the presentations have been downloaded from the website to be much higher.

**Professional Training Workshops**

18 VDOT and local government staff registered *the Overview of Transportation Sustainability Workshop* on April 17 in Charlottesville. The workshop included an introduction to sustainability, introduction to sustainability rating systems, sustainability as part of life cycle, technical sustainability applications, a sustainability management system exercise and a discussion of the measurement of sustainability. The workshop featured discussions throughout the day and active participation from all attendees. Portions of the workshop will be used in the Overview Module the instructor is presenting in the Graduate Transportation Sustainability course offered by the Center to five of the six universities in our consortium in Fall 2015. Some of the discussions will be used in a June 2015 session with our MATS UTC summer undergraduate researchers. Figure 5 is a photo of the Sustainability Management Plans developed during the workshop. The participant workbook for this workshop is presented in Appendix A.

![Figure 5: Sustainability Management System Exercise from Overview of Transportation Sustainability Workshop, April 17, 2015 Charlottesville](image)
We had to close registration for the Infrastructure Impacts of Sea Level Rise class offered on May 5 in Virginia Beach. The 30 participants included VDOT staff, local government staff, and citizen and military groups interested in sea level rise. The workshop featured three instructors who presented material related to climate change trends, infrastructure design with rising sea levels and climate impacts, and stormwater management. Attendees became animated during the stormwater discussion and shared their experiences in Virginia’s Tidewater Region. Two of the instructors will present similar materials in the Fall 2015 Graduate Transportation Sustainability course. Figure 6 is a photo of the participant workbook for this course. The participant workbook for this workshop is presented in Appendix B.

![Figure 6: Photo of Participant Workbook for Infrastructure Impacts of Sea Level Rise Workshop, May 5, 2015 Virginia Beach](image)

**CONCLUSIONS**

The following section provides a few lessons learned from our experiences this year. We are excited about our new Center and the opportunities to discuss transportation sustainability with a variety of audiences using a variety of platforms. VDOT support has made it possible to conduct this number of technical transfer and outreach efforts.
RECOMMENDATIONS

Here we present a few lessons learned from the technical transfer and outreach efforts supported by this project.

1. Additional VDOT participation in these events and activities before, during, and afterwards is encouraged. This participation can span all Divisions and Districts within VDOT.
2. We can continue to find ways to engage different audiences and make materials available.
3. Repeat participation and refine workshop materials as appropriate based on feedback from initial workshop attendees. We already plan to participate in the October 2015 Northern Virginia VDOT Career Fair and we are planning a four-hour version of the *Infrastructure Impacts of Sea Level Rise* workshop at our MATS UTC Annual Meeting (August 7, 2015 in Wilmington, DE).
4. We plan to continue to develop promotional materials specific to MATS UTC.

REFERENCES

This part of the report has no references