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Journal of the Louisiana Section

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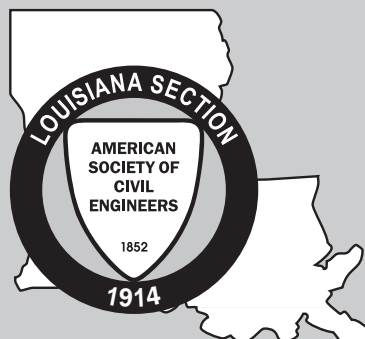


Field Implementation of Pavement Markings in LSU

FEATURE:

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Asphalt Pavements in Hot
and Humid Climates

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Baton Rouge Printing, Inc., Port Allen, LA

Louisiana Civil Engineer quarterly journal is an official publication of the Louisiana Section of the American Society of Civil Engineers with an average circulation of approximately 2100. The Section neither guarantees the accuracy of the information provided nor necessarily concurs with opinions expressed. It does not claim the copyrights for the contents in this publication. Please submit letters and articles for consideration to be published by email to nedrahains@gmail.com or mail to the Publications Committee c/o Nedra D. Hains • 622 Steele Blvd. • Baton Rouge, LA 70806-5742.



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TABLE OF CONTENTS

FEBRUARY 2021 • Volume 29 • No. 2

Section Roster	4
President's Message	5
Optimizing the Use of Waterborne Paints on Asphalt Pavements in Hot and Humid Climates	6
Region News	11
Section News	12
ASCE Society: From The Executive Director	13
ASCE – COPRI Louisiana Chapter News	14
ASCE – Geo-Institute Louisiana Chapter	15
ASCE – Government Relations Committee News	16
ASCE – T&DI Louisiana Chapter News	17
ASCE – UESI Louisiana Chapter News	18
Branch News	19
ASCE – SEI New Orleans Chapter News	21
Student Chapter News	22
Calendar of Events	25
Professional Listings	25
Service & Suppliers	2,28



ASCE NATIONAL CONTACT INFORMATION:

Phone: 1-800-548-ASCE

E-Mail: gsd_master@asce.org

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President's Message

By Joe "Butch" Ford Jr., PE

I hope everyone had a great holiday season and Happy New Year! I'm anticipating that 2021 brings back peace, good health and a sense of normalcy to our lives and to our country. As president of the section, I set two goals that I would like to remind everyone of: Increasing the Section Membership and Informing our state legislators about the importance of improving infrastructure throughout Louisiana.

I want to challenge everyone to reach out to a Civil Engineer in your community and ask them if they would like to join ASCE. In the December 2020, ASCE magazine Jean-Louis Briaud, PhD, PE, D.GE, Dist.M.ASCE, President of ASCE gives 12 reasons why people benefit from being a member of ASCE. If you haven't read this article, I encourage you to do so. It gives a wealth of knowledge in explaining what membership in ASCE can do for its members.

The Louisiana Legislative session begins April 12, 2021 in Baton Rouge. I would like for everyone to contact their Representatives and Senators discussing with them the LA ASCE 2017 Infrastructure Report Card. Tell Your Legislators that Louisiana infrastructure needs their attention. Hopefully awareness to the condition of our infrastructure will become an important topic for this year's session.

There are a number of ASCE activities planned for the Spring of 2021.

The ASCE Legislative Fly-In is scheduled for March 2–4, 2021 under the Section leadership of Kirk Lowery. We already have a number of members signed up to participate this year.

The LSU student chapter will be hosting the Deep South Student Conference April 15 – 17, 2021. We continue to meet and discuss the changes to the conference making it a virtual conference. I had the opportunity to serve as a Concrete Canoe Judge last year and it was a wonderful experience. Anyone who is interested in serving as a judge for this year competition, please send an e-mail to Rudy Simoneaux or myself.

The Louisiana ASCE Spring Conference will be hosted again by the Acadiana Branch hopefully in April. We will notify all of our members of the format once plans are finalized.

Engineers Week is February 21-27, 2021. See the Louisiana Sections Website for ideas on how to stay involved. <http://lasce.org/>

In closing we will continue to serve you even though the Pandemic continues.



Joe "Butch" Ford Jr., PE



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Optimizing the Use of Waterborne Paints on Asphalt Pavements in Hot and Humid Climates

By: Momen R. Mousa, Marwa Hassan, Paul Carlson, Jason Davis, Saleh Mousa

Introduction

Pavement markings are a crucial component of the highway system. They provide guidance and convey regulations and warnings to road users. Pavement markings encompass longitudinal lines (centerlines, lane lines, and edge lines on paved streets and highways), transverse lines, words, and symbols. The two most commonly used colors for pavement markings are white and yellow. In general, white lines are utilized to separate traffic flows in the same direction and delineate the right edge of the roadway. On the other hand, yellow lines are used to separate traffic in opposing directions, two-way, left-turn lanes, and reversible lanes from other lanes and delineate the left edge of the roadway of divided and one-way highways and ramps (1).

For pavement markings to be effective, they should be retroreflective, which means that they should be able to redirect light beams from vehicle headlights back in the direction of the driver. This retroreflective property of the pavement markings is necessary for efficient and safe vehicle operations at night. In general, retroreflectivity is achieved by embedding tiny glass beads in the marking materials (2). In addition to retroreflectivity, pavement markings should be durable to provide efficient and safe vehicle operations. Durability refers to the resistance of the marking material to abrasion from traffic and snow removal activities. The pavement marking color is another important property that refers to vividness of white pavement markings and richness of yellow pavement markings as viewed from a distance (3). Among these three performance criteria, the pavement marking night retroreflectivity is usually the critical property that controls the performance and service life of pavement markings (3).

Over time, the pavement marking night retroreflectivity decreases. The loss in retroreflectivity could be resulted from the loss of glass beads, wearing of marking material, color change of the marking material, loss of contrast between the marking material and the underlying pavement surface, or simply due to accumulation of dirt and dried salt on the highway (4-5). Environmental conditions such as recurrent changes in moisture and temperature and intense exposure to ultraviolet light can further expedite the wearing of the marking material (6). Therefore, it is crucial to restripe pavement markings when their night retroreflectivity reaches a specific threshold value to ensure adequate nighttime visibility of pavement markings and safe driving conditions.

In general, pavement markings encompass three key components: binder (glue), reflective media (reflectors), and pigment (color). The binder provides the marking material with the ability to withstand abrasion from traffic and snow plowing. The reflective media allow the material to be visible at night by reflecting the light from the vehicle headlight back to the driver's eyes. The most common type of reflective media is glass beads, which can be either intermixed or surface applied. The pigment determines the daytime and nighttime color of the pavement marking material, and contributes to the retroreflectivity of the marking material at night. Common

pavement marking materials include traffic paint (solvent-based and waterborne paints), thermoplastic, epoxy, modified urethane, polyurea, methyl methacrylate, preformed thermoplastic, and preformed tapes (4).

In 2002, a nation-wide survey (7) was conducted to identify the common pavement marking practices in the United States. The survey included 51 state departments of transportation (DOTs) and local authorities. The results of the survey indicated that waterborne paint is the most common pavement marking material used by state agencies. It was used by about 78% of the

responding agencies constituting 58% of the striped lane miles (7). In 2000, Louisiana spent about \$7.5 million on 16,681 centerline miles of highway for pavement marking (7). In spite of this considerable usage, waterborne paint pavement markings face a number of key challenges, specifically in southern states with hot and humid climate such as Louisiana.

The first key challenge is that most districts in Louisiana and other southern states replace their pavement markings using waterborne paints based on (i) a regular cycle (e.g., every two or three years) identified based on previous experience and/or engineering judgement or based on (ii) annual visual inspections to subjectively decide whether pavement markings need to be restriped (7). It is well recognized that these two strategies are unreliable in terms of both economy and efficiency (8). This is because in some cases, pavement markings are restriped before the end of their actual service life wasting monetary resources. In several other cases, pavement markings are restriped after the end of their actual service life resulting in safety issues. In addition, adopting any of these strategies usually result in pavement markings that do not meet the minimum in-service night retroreflectivity suggested by the Federal Highway Administration (9).

Another key challenge facing waterborne paints in the United States is that their actual service life is not well-identified. Throughout the United States, wide variations were reported as related to the service life of waterborne paints. For instance, a research study conducted in Washington State (10) reported that the service life of waterborne paints was between 3 months (0.25 year) and 25 months (2.1 years). Another research study in South Dakota (11), reported a service life for the waterborne paints ranging between 4 months (0.3 year) and 75 months (6.2 years). It is concluded that this discrepancy arises from variations in traffic level, climate conditions, waterborne paint properties (color, thickness), etc.



Momen R. Mousa, PhD



Marwa Hassan, PhD, PE

Researchers in Louisiana State University (LSU) conducted a state-wide survey to determine the state-of-the-practice of using waterborne paints in Louisiana. The survey results indicated that almost all the districts in Louisiana restripe their district roads using waterborne paints. In most of the cases, 4-inch wide high-build waterborne paints (paints having about 25 mils thickness) are utilized. After the waterborne paint is applied, the contractor is required to take a single night retroreflectivity measurement within 30 days after the installation for acceptance. To be accepted, the measured night retroreflectivity should exceed the minimum acceptance value set by Louisiana Department of Transportation and Development (LaDOTD). Throughout the service life of the waterborne paints, and due to budget constraints, no further night retroreflectivity measurements are taken to monitor the degradation of night retroreflectivity, and hence, the actual service life is uncertain. Instead, LaDOTD assume a fixed service life of two years for all the waterborne paints regardless their actual performance, and therefore, district roadways are commonly restriped once every two years. One can conclude that this restriping strategy usually results in over restriping (if the actual service life is more than two years which is uneconomic) or under restriping (if the actual service life is less than two years which will introduce safety issues to night drivers).

To address these problems, researchers in Louisiana State University developed a simple model and proposed alternative cost-effective restriping strategies to assist LaDOTD optimize the use of their waterborne paints. To do so, data from the National Transportation Product Evaluation Program (NTPEP) were retrieved and analyzed.

Overview of the National Transportation Product Evaluation Program (NTPEP)

The National Transportation Product Evaluation Program (NTPEP) is a pool funded Technical Service Program (TSP) founded in 1994 under the auspices of the American Association of State Highway and Transportation Officials (AASHTO). The NTPEP provides comprehensive field and laboratory assessments on several transportation-related products commonly used by AASHTO member departments. The key objective of this program is to help state highway agencies making informed decisions related to the prequalification of these products; and hence, enhancing the quality of available products and raising awareness of their availability. Evaluated products by the NTPEP include pavement markings supplied by different vendors and applied on test decks (sections of highways in Florida, Minnesota, Wisconsin, and Pennsylvania). The NTPEP evaluates different types of pavement markings including temporary removable tapes and non-removable (permanent) pavement marking products such as traffic paints, liquid pavement markings (e.g., epoxies, polyesters, and polyurea), thermoplastics, preformed thermoplastics, and durable tapes. These materials are applied over asphalt and concrete pavements according to the NTPEP's work plan.

For each tested product, a total of four transverse lines having a width of 4 inches, see Figure 1, are installed from the skip line area to the right edge line. For each line, field night retroreflectivity readings are measured monthly in the first year and quarterly in the second and third years. These measurements are collected in both the skip-line area (defined in the work plan as the first nine

inches from the skip-line) and the left wheel path area using LTL 2000 retroreflectometers. Figure 1 presents an example of white (lines number 1, 2, 3, and 4) and yellow (lines number 5 and 6) waterborne paints applied in Florida directly after installation (Top) and three years after installation (Bottom).

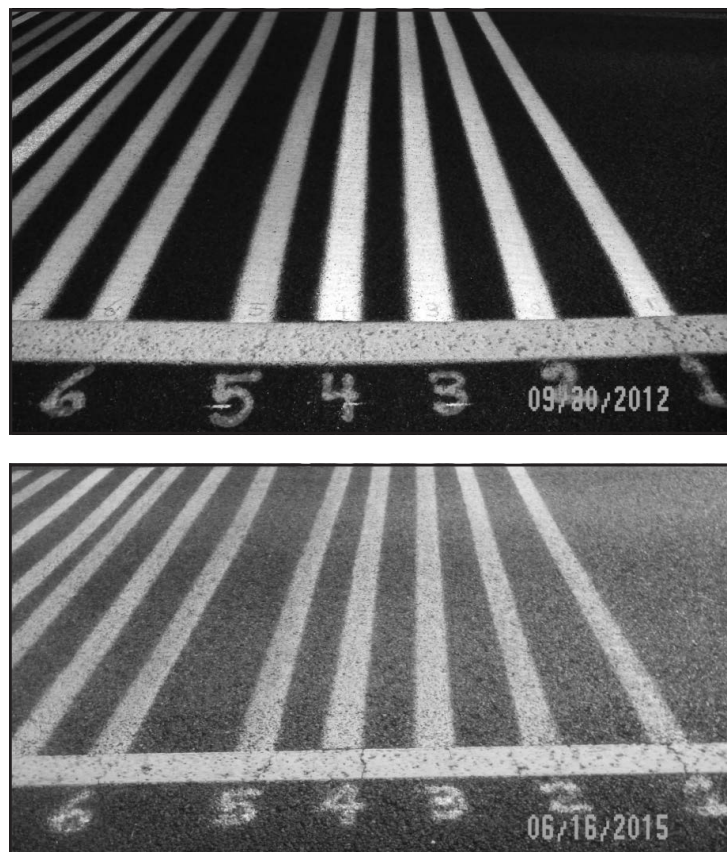


Figure 1 White (lines 1, 2, 3, and 4) and yellow (lines 5 and 6) paints directly after installation (left) and three years after installation (right) for one of the waterborne paints applied in Florida

Data Collection

In this research study, LSU researchers retrieved data from the 2012 Florida NTPEP test deck (for this test deck, pavement markings were applied in 2012 and monitored till 2015) and from the 2015 Florida NTPEP test deck (for this test deck, markings were applied in 2015 and monitored till 2018). The Florida test decks were utilized in this study because of the similar climatic conditions between Louisiana and Florida. The research team collected retroreflectivity measurements over the three-year monitoring period for a total of 184 waterborne paint lines (72 lines collected from the 2015 test deck and 112 lines collected from the 2012 test deck). These lines encompassed two colors (yellow and white), two paint thicknesses (15 and 25 mils), seven manufacturers (A to G), and one pavement surface type (asphalt).

Field Performance of Standard Waterborne Paints (15 mils Thickness)

In this study, out of the total 184 waterborne paint lines, 128 lines were standard waterborne paint lines (paint lines having a thickness of 15 mils), while the remaining 56 lines were high build waterborne paint lines (paint lines having a thickness of 25

mils). In this section, the research team analyzed the collected retroreflectivity measurements for the 128 standard waterborne paint lines to determine the actual service life (SL) for every line. The pavement marking service life is defined as the time for the marking retroreflectivity to drop from its initial value after installation to a specific threshold value. A threshold retroreflectivity value of 100 mcd/m²/lux is commonly used in previous studies and therefore was used in this study (12).

For the 128 lines, the service life ranged between 0.39 year (5 months) and 4.31 years (52 months). To evaluate the effect of the

other factors on the paint service life, the service life of the 128 lines were categorized based on the manufacturer, line color and the average daily traffic (ADT), and the average paint service life was computed for each category. Table 1 presents these results. As shown in Table 1, the average service life ranged between 0.84 years (10 months) and 3.95 years (47 months) based on the manufacturer, line color and the ADT. As expected, white lines had relatively higher service life than yellow lines and lines subjected to lower ADT had relatively higher service life than those subjected to higher traffic levels.

Table 1. Average service life (in years) of the standard waterborne paints

Manufacturer	Color= White		Color= Yellow	
	ADT= 17,333 vehicles per day	ADT= 42,764 vehicles per day	ADT= 17,333 vehicles per day	ADT= 42,764 vehicles per day
A	1.49	-	0.84	-
B	3.46	-	-	-
C	3.95	2.96	2.27	1.30
D	1.25	-	-	-
E	-	3.47	-	3.49
F	3.08	-	1.75	-
G	3.62	-	2.53	-

Based on the fact that the service life of standard waterborne paints is considerably affected by the line color and traffic level, LSU researchers utilized the collected data to develop a simple regression model to help state agencies predict the service life of their standard waterborne paints without the need for monitoring the night retroreflectivity as follows:

$$SL = 0.0355 L_i - 0.0000433 L_i^2 - 1.75A + 0.3A^2 + 0.14B + 0.13B^2 - 0.9 \quad (1)$$

where,

SL = Standard waterborne paint service life in years

L_i = Initial retroreflectivity of the waterborne paint near the edge line

A = a numerical value representing the traffic level. A value of 2 is employed if the ADT is 17,333 vehicles per day, while a value of 3 is utilized if the ADT is 42,764 vehicles per day. It is worthy to note that Equation 1 could only be used if the daily traffic is in the range of 17,333 and 42,764 vehicles per day

B = a numerical value representing the paint color (0 is used for white paints while 1 is used for yellow paints)

Based on statistical analysis, the proposed model in Equation 1 predicted the SL with an acceptable level of accuracy as supported by a coefficient of determination (R^2) of 0.95 and root mean square error (RMSE) of 0.24 years (about 87 days). This developed model can be used as a decision making tool, that a southern state agency

can use to determine when to restripe the road. This model is expected to assist in the decision-making process as follows:

1. Once a standard waterborne paint is applied, the agency will measure the initial night retroreflectivity of the edge line within 30 days and report this value as L_i .
2. Based on the expected ADT on this road and the paint color (white or yellow), the agency will use Equation (1) to predict the paint SL.

Field Performance of High Build Waterborne Paints (25 mils Thickness)

In this study, out of the total 184 waterborne paint lines, 56 lines were high build waterborne paint lines (paint lines having a thickness of 25 mils). In this section, the research team analyzed the collected retroreflectivity measurements for these 56 lines to determine the actual service life (SL) for every line. However, the retroreflectivity measurements for almost all the 56 lines did not show consistent degradation with time, and therefore, it was not possible to compute the service life of these paints with a reasonable accuracy.

To address this challenge, the research team compared the measured retroreflectivity at the end of the three-year monitoring period for every paint line against the threshold retroreflectivity (100 mcd/m²/lux). For almost all the 56 lines, the measured retroreflectivity at the end of the three-year monitoring period exceeded 100 mcd/m²/lux. Therefore, it was concluded that the service life of high build waterborne paints in southern states with dry and humid climate (similar to Louisiana and Florida) is at least 3 years.

Restriping Scheduling Recommendations for LaDOTD

Based on the results of this research study, and considering the similar conditions between the NTPEP test decks in Florida and the district roads in Louisiana, researchers at LSU recommended that districts in Louisiana increase their restriping cycle from two years to three years using exactly the same high build paint product. Increasing the restriping cycle to three years could include taking additional retroreflectivity measurements after two years to ensure that the retroreflectivity of the paint product still exceeds the threshold value. To quantify the total cost savings to the State resulting from increasing the restriping cycle, LSU researchers conducted a life-cycle cost analysis.

The life-cycle cost analysis was conducted through computing the Net Present Value (NPV) for restriping a 5,000 lane-miles network in Louisiana considering the following three restriping strategies:

- **Strategy A:** restriping the whole network once every two years using 4-inch wide high-build paints. This strategy represents the current practice in Louisiana.
- **Strategy B:** restriping the whole network once every three years using 4-inch wide high-build paints. This is the new recommended strategy by the research team.
- **Strategy C:** restriping the whole network every three years using 6-inch wide high-build paints. This new strategy was included in this study to address the recent recommendation from the National Committee on Uniform Traffic Control Devices (NCUTCD) that includes a change to the Manual on Uniform Traffic Control Devices (MUTCD) to use 6-inch wide pavement markings on all roadways with posted speeds of 55 mph and higher, and ADT of 6,000 and higher (13).

Figure 2 presents the NPV of the three strategies as well as the cost savings for Strategies B and C when compared to Strategy A. The following key conclusions were drawn from Figure 2:

- Transition to Strategy B will save the State about \$20 million annually when restriping the whole network without jeopardizing user safety.
- Transition to Strategy C will save the State about \$2 million annually when restriping the whole network, in addition to enhancing the user safety.

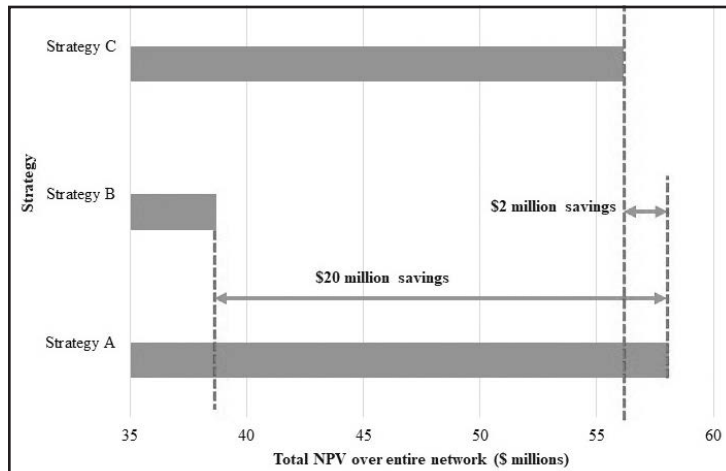


Figure 2 Total NPV for the different strategies

Field Testing in LSU Campus

In order to validate the previous findings and conclusions, researchers in LSU collaborated with Stripe-A-Zone, a road construction firm in Texas and Louisiana, for a field experiment to be conducted in LSU. This field experiment included applying four different waterborne paints (standard and high build) on asphalt and concrete surfaces on LSU's campus—Highland Road, Nicholson Extension, Engineering Lane, and Forestry Lane—on Oct. 16-17, 2020. As shown in Figure 3, the paints were installed in the conventional longitudinal direction, as well as, in the transverse direction (similar to the NTPEP configuration). Initial retroreflectivity measurements were taken after installation of all the products, as shown in Figure 3. LSU researchers will monitor the performance of these products through taking retroreflectivity measurements every three months over a 15-month monitoring period.



Figure 3 Field testing in LSU

About This Project: This project is funded by the U.S Department of Transportation. The PIs for this project are Dr. Momen Mousa (mragab1@lsu.edu), Senior Research Associate in Louisiana State University and the Program Manager of Tran-SET University Transportation Center (UTC), and Dr. Marwa Hassan (marwa@lsu.edu), Professor at Louisiana State University and the Director of Tran-SET UTC.

REFERENCES

1. Manual on Uniform Traffic Control Devices. (2009). Federal Highway Administration, Washington, D.C.
2. Fu, Haoqiang, and Chester G. Wilmot. "Assessing performance of alternative pavement marking materials." (2010).
3. Wang, Songquan. Comparative analysis of NTPEP pavement marking performance evaluation results. Diss. University of Akron, 2010.
4. Thomas, G.B. and C. Schloz (2001). Durable, Cost-Effective Pavement Markings. Phase I: Synthesis of Current Research, Iowa Department of Transportation, Report No. TR-454. Available Online: http://www.dot.state.ia.us/materials/research/reports/reports_pdf/hr_and_tr/reports/tr454.pdf.
5. Shay, G. (2004). "Paint Winner: Waterborne Traffic Markings Prove their Worth on the Road." *Journal of Roads and Bridges*, Vol. 42, No. 3.
6. TranSafety, Inc. (1998). "Useful Life and Cost-Effectiveness of Three Pavement Marking Materials Studied." *Road Management & Engineering Journal*. Available Online: <http://www.usroads.com/journals/rmej/9809/rm980903.htm>
7. Migletz, J. and Graham, J., "Long-Term Pavement Marking Practices: A Synthesis of Highway Practice," NCHRP Synthesis 306, TRB, 2002.
8. Parker, Neville A. Evaluation of the Performance of Permanent Pavement Markings and Retro Reflectors in Snowplowable Raised Pavement Markers. No. 55657-01-13, 2002.
9. Carlson, P., Schertz, G., Satterfield, C., Fall, K. W., & Taylor, T. (2014). Method for Maintaining Pavement Marking Retroreflectivity. FHWA-SA-14-017. Texas Transportation Institute, Texas A&M University, and Federal Highway Administration, Washington, DC.
10. Kopf, Jaime. Reflectivity of pavement markings: Analysis of retroreflectivity degradation curves. No. WA-RD 592.1., Olympia: Washington State Department of Transportation, 2004.
11. Wehbe, N. I., Jones, A., & Druyvestein, T. (2017). Optimization of Pavement Marking Performance (No. MPC 17-341).
12. Dwyer, Carmine E., William R. Vavrik, and Rachel L. Becker. Evaluating Pavement Markings on Portland Cement Concrete (PCC) and Various Asphalt Surfaces. Illinois Center for Transportation, 2013.
13. National Committee on Uniform Traffic Control Devices, "NCUTCD Approved Changes to the Manual on Uniform Traffic Control Devices", Attachment No. 4, Item No.: 19B-MKG-02, 2020.



From the Editor: ASCE Louisiana Section Call for Abstracts

The Section is looking for technical articles for the 2020-2021 Louisiana Civil Engineer Journal. Please send your abstract to Nedra Hains at nedrahains@gmail.com. The publication committee will review your abstract and let you know if it will qualify. The Louisiana Civil Engineer is published quarterly in black and white print. A typical main article is 5,000 words with pictures, tables, etc. A short article is typically 3,000 words with pictures, etc. One page abstracts/ very short articles are also available at 1,500-2,000 words. Once approved by the publication committee, full articles are due by the 5th of the month before the journal is published April 5, 2021 for the May issue, July 5, 2021 for the August issue, and October 5, 2021 for the November issue. Please send any questions to

Nedra Hains, nedra.hains@gmail.com.

ASCE Region 5 Governor's Report

By Rudolph A. Simoneaux, III, PE, Region 5 Governor

2021 ASCE Region 5 Awards

SUBMITTAL DEADLINE: JUNE 1, 2021

Region 5 is continuing a Region 5 Awards program in 2021. The below categories are open for nomination:

1. **Region 5 Civil Engineer of the Year** - awarded annually to one recipient to recognize outstanding achievements of a practicing Civil Engineer that is active within the Region.
2. **Region 5 Younger Civil Engineer of the Year** - awarded annually to one recipient to recognize outstanding achievements of a practicing Civil Engineer, age 35 or less that is active within the Region.
3. **Region 5 Civil Engineering Student of the Year** - is awarded annually to one recipient to recognize an outstanding Civil Engineering or Civil Engineering Technology Student, enrolled in a Civil Engineering undergraduate program in the 2020-2021 academic school year.
4. **Region 5 Wall of Fame** - a designation to honor Civil Engineers that have made a substantial contribution to ASCE, Region 5, and the Civil Engineering community. Nominations will be considered annually, with no more than 3 candidates selected for the honor in a given year.

Eligibility of the Award

Nominees must be submitted by a Region 5 Section. Only 1 nomination per Section, per award, may be submitted each year. The selection process is based on the nominee's contributions to the region, society, profession, the public welfare, and/or humankind as listed under the purpose of the award.

Qualifications

1. Nominee for Civil Engineer of the Year must be a licensed Professional Engineer and must be an ASCE Member in good standing.
2. Nominee for Younger Civil Engineer of the Year must be an ASCE Member or Associate Member and must be an ASCE member in good standing.
3. Nominee for Engineering Student of the Year must be an ASCE Student Member in good standing enrolled in an undergraduate Civil Engineering Student.
4. Nominee for the Region 5 Wall of Fame must be a Fellow or Life Member of ASCE at least 55 years or older, made significant contributions to the Civil Engineering Profession, supported and promoted ASCE, Region 5, and the Civil Engineering Profession, and be endorsed by two Licensed Professional Engineers not on the Board of Directors of the nominating branch.

Nomination Criteria

The following sections present the award nomination criteria that will be considered. The information can be typed and submitted

as attachments to this form, or the information can be entered electronically, lengthening the form as needed. **Nomination should be a maximum of 5 pages. Points may be deducted if longer than 5 pages.**

1. ASCE Involvement: ASCE activities during the past five years, including offices held and awards (20 Points).
2. Professional/Technical Society Involvement: Other professional/technical society activities during the past five years, including offices held and awards (20 Points).
3. Civic and Humanitarian Organization Involvement: Civic and humanitarian organization activities in during the past five years, including positions held (20 Points).
4. Engineering Achievements: Submit narrative supporting nominee's project achievements (40 Points).

Additional Requirements

1. A statement of 100 words maximum (one page, double spaced) that supports the nomination showing achievement in Civil Engineering. Statement will include description of awards received in recognition of Civil Engineering accomplishments. *NOTE: The statements of the nominees selected for the Civil Engineer of the Year Awards will be used in Region Award announcements and on the Region webpage.*
2. A nomination letter signed by the sponsor Section. (not included in total page count).
3. A resume would be helpful to the judges but is not obligatory (not included in total page count).
4. A photograph will be required from the winning nominees.
5. Name and address of a local newspaper.

Submittal Requirements

Submittal Deadline: **JUNE 1, 2021**

Contact Rudy Simoneaux, Region 5 Awards Committee Chair, for a copy of the registration form (rudy.simoneaux@la.gov)

Award Presentation

Award winners will be contacted by **October 1, 2021**.

Awards will be presented at a local Section or Branch function.

Questions

For questions, please contact Rudy Simoneaux at rudy.simoneaux@la.gov or (225) 342-0981.



Rudolph A. Simoneaux, III, PE

ASCE's Outstanding Civil Engineering Achievement Award

The 2021 ASCE OPAL leadership awards recognize outstanding civil engineering achievement.

ASCE's Outstanding Civil Engineering Achievement award – the OCEA – has recognized exemplary civil engineering projects every year since 1960.

This year, ASCE celebrates nine stellar projects as OCEA Honor Award recipients. These nine projects will be showcased during the ASCE 2021 Convention, Oct. 8 in Chicago. From the group of nine, two runners-up and the OCEA winner will be announced at the event.

Louisiana's Project: **Permanent Canal Closures and Pumps (PCCP)**, *New Orleans, Louisiana* by Mr. John Proskovec, Kiewit Infrastructure South, South Central District has been selected by the American Society of Civil Engineers as an Outstanding Civil Engineering (OCEA) Achievement Honor award will be among the nine showcased. The \$690 million design-build project was the final piece of the massive Hurricane and Storm Damage Risk Reduction system started in the aftermath of Hurricane Katrina to improve New Orleans' resilience.



In Memory of **Donald Charles Makofsky, Sr.**

Donald Charles Makofsky, Sr., 81, passed away November 11, 2020. Mr. Makofsky was a life-time New Orleanian. He attended Saint Aloysius and earned the rank of Eagle Scout as a "yout," as he would say. He later attended Tulane University, where he graduated with a B.S. in Civil Engineering (1963) and M.S. in Civil Engineering (1969). He was a founding partner, owner, and president of Morphy, Makofsky, Inc. He was a member of ASCE, ACI, CEC, Prestress Concrete Institute, Deep Foundation Institute, American Institute of Steel Construction, and the New Orleans Department of Standard and Appeals.

In 1975 Edward R. Morphy, Donald C. Makofsky, and G. Emile Masson started the firm of Morphy, Makofsky, Masson. Mr. Makofsky continued to practice as a structural design engineer along with assuming the responsibilities of an owner as well as project manager and assisting junior engineers in developing their skills to become proficient designers.

Mr. Makofsky wrote the following at the time of his retirement in 2015:

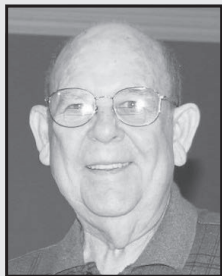
"I have spent 50 years in the structural engineering field, a field in which I love and will always love. From 1960's and early years of learning at A.W. Thompson & Associates - the 1970's and the New Orleans Hotel boom - the 1980's and the New Orleans World's Fair - the 1990's with the construction of the Aquarium and the Harrah's Development - to the turn of the century and the rebuilding and reconstruction of our city following the aftermath of Hurricane Katrina; engineering and this firm has been an integral part of my life. In the span of my 50 plus engineering years, there are many projects that have challenged and enriched my career. From these past and present projects, the engineering staff at Morphy, Makofsky, Inc. has been able to share in those

experiences of working on the many diverse projects that have passed through our doors."

His love of engineering and influence on those lucky enough to have worked for him and alongside him will last for years to come. He will be dearly missed by all that knew him.

Throughout his forty-plus years at MMI, Mr. Makofsky worked on various projects for Audubon Zoo, the 1984 World's Fair, the Aquariums of America, Xavier University, Loyola University, Tulane University, the New Orleans International Airport, Charity Hospital, LSU Medical School, and Children's Hospital, just to name a few. Put simply, the landscape of New Orleans would not be what it is today without the expertise and diligence of Mr. Makofsky, who put his heart and soul into every structure he oversaw.

Mr. Makofsky was also a parishioner at St. Pius X Church, a member of Metairie Country Club, a member of Eastover Country Club, and a former president of the Maskers Club. Mr. Makofsky was known for his sense of humor, his charisma, his love of food, and his generosity, but most of all he was known for his love for his family and friends. Mr. Makofsky is survived by his wife of 57 years Dione Davenport Makofsky; his son Donald Charles Makofsky, Jr. (Paula); his daughter Maureen Makofsky Morici (Mark); his granddaughter Abigail Morici; his grandson Blake Makofsky; and his youngest granddaughter Meagan Morici. He is also survived by his sister, nieces, nephews, great-nieces, and great-nephews, all of whom he loved dearly. Mr. Makofsky will be joining his beloved dog Pepper in heaven. A private service was held for the family at St. Pius X Church. For those, who wish, donations are requested for St. Pius X Church or the National Shrine of Blessed Francis Xavier Seelos at 919 Josephine St, New Orleans, LA 70130, in Mr. Makofsky's name.



In Memory of **Eugene Emile Begnaud**

Lafayette - Funeral services were held on Monday, February 1, 2021 in La Chapelle de Martin & Castille for Eugene Emile Begnaud, 82, who died on Thursday, January 28, 2021 at Ochsner Lafayette

General Medical Center.

Mr. Begnaud graduated as valedictorian at Cathedral High School and graduated from USL with a Civil Engineering Degree. He went on to obtain his Master's of Civil Engineering at Rice University. Eugene was a member of ASCE and SNAME. He held two engineering patents and was a Louisiana Professional Engineer.

Survivors include his beloved wife of 45 years, Candy Begnaud; his brother, Allen Paul Begnaud and his wife Charlene; his sister-

in-law, Kay Kline and her husband Morton; three nephews, Randy and David Begnaud and Tommy Kline; and two nieces, Karen Begnaud Carriere and Gretchen Kline Phillips. He was preceded in death by his parents, Leo P. Begnaud and the former Solange Guidry.

Pallbearers will be Randy Begnaud, David Begnaud, Tommy Kline, Tommy Begnaud, Jacob Mahne and Luke Mahne. Honorary Pallbearer will be Wil Carriere. Entombment will be in St. John Mausoleum. Reverend Daniel Edwards, Pastor of St. Jules Catholic Church in Lafayette, conducted the funeral services. The family requests that in lieu of flowers, memorial contributions can be made in Mr. Begnaud's name to St. Jules Catholic Church, 116 St. Jules Street Lafayette, LA 70506.

ASCE SOCIETY: FROM THE EXECUTIVE DIRECTOR

By Thomas W. Smith III, ENV SP, CAE, F.ASCE

There's every good reason to think 2021 will see us emerge from the challenges of 2020 but for now, some things must remain the same, including the precautions we must take to help defeat the pandemic. Based on information available from the CDC and local authorities, we recently extended our Phase Two office status to June 30. Everyone who can work remotely will be able to do so through at least mid-year. Other practices, such as prohibiting staff travel, also remain in place. We strongly encourage all ASCE entities to meet virtually through June 30 at a minimum.

For our part, we are prepared to continue working and meeting virtually into 2021. The Senior Leadership Team and staff directors held remote workshops where they were given training on leading remote and hybrid teams, including new opportunities to efficiently and sustainably engage a broad and diverse network of members worldwide.

In its first meeting of the year, the Board of Direction approved new policies on broadband communications, environmental policy, and clean and renewable energy; authorized additional funding and support of the Future World Vision Mega City 2070 world; and voted to explore market needs and potential implementations of a report by the ASCE Industry Leaders Council on cybersecurity threats. Read more about the board meeting as covered by Civil Engineering Source.

The top of the ballot is set for the May ASCE election. The official nominees for ASCE 2022 president-elect are Maria Lehman, P.E., ENV

SP, F.ASCE, and Peter M. Moore, P.E., ENV SP, LEED AP, F.ASCE.¹

I'm looking forward to the release of the 2021 Report Card for America's Infrastructure coming Wednesday, March 3 in a virtual press conference you can attend. The overall GPA grade from among 17 categories always attracts media notice, and this year's release will come at an opportune time, with the new Biden administration seeking to make infrastructure investment a key to its economic recovery program.

ASCE committees seek members Each year, thousands of civil engineering professionals help the Society advance the profession by serving on an ASCE committee. Interested in sharing your technical or professional expertise, or know someone who is? Online committee applications are now being accepted until March 15. Apply today!²



**Thomas W. Smith III,
ENV SP, CAE, F.ASCE**

Links in this article

- 1 <http://bit.ly/asceelection>
- 2 <http://bit.ly/ascecommittee>

ASCE-COPRI Louisiana Chapter News

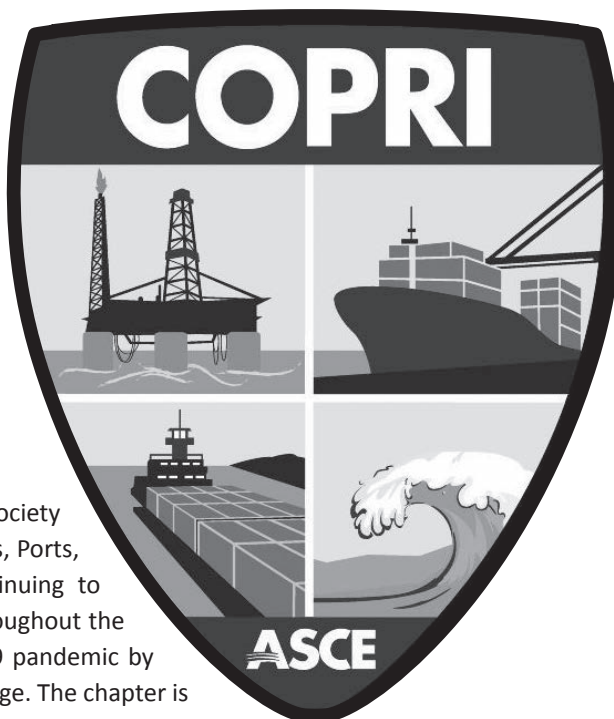
By Victoria Curto, PE, Director - Communications



COAST, OCEANS,
PORTS AND RIVERS
INSTITUTE
Louisiana Chapter



Gerald Songy, PE
Director – Communications



The Louisiana Chapter of the American Society of Civil Engineers (ASCE) Coasts, Oceans, Ports, and Rivers Institute (L.COPRI) is continuing to promote membership and visibility throughout the State of Louisiana during the COVID-19 pandemic by conducting virtual webinars free of charge. The chapter is committed to continuing to provide professional development hours by hosting technical webinars throughout the pandemic and will consider hosting an in-person seminar once conditions improve.

L.COPRI Spring Webinars (since June 2020)

The COPRI-Louisiana Chapter has remained active throughout the COVID-19 pandemic and has hosted three technical webinars since June 2020. The following webinars were hosted with attendee numbers ranging from 60 to 130:

Port of New Orleans Master Plan Update by Amelia Pellegrin (Port of New Orleans)

A Review of the 2018-2019 Mississippi River Flood by Suzanne van Cooten (National Weather Service)

Open Ocean Aquaculture: Big Water, Big Challenges, and Big Opportunities by Matthew Campbell (NOAA)

Development of Oyster Management and Restoration Strategic Plan for Louisiana by Patrick Banks (LA Dept. of Wildlife and Fisheries)

New and Upcoming events

The chapter is currently planning another webinar for early Spring. We would like to extend an invitation to our members to submit feedback and ideas for upcoming webinars. Please submit these ideas to gsongy@moffattnichol.com and stay-tuned for a meeting invite if you are a member of our COPRI email list.

Officer Update

The COPRI-Louisiana Chapter has updated officer and director roles for 2020-2021 which are provided below.

Officers:

Chairman: Tyler Ortego

Vice Chairman: Erin Rooney

Secretary: Andrew Woodroof

Treasurer: Myriam Bou-Mekhayel

Directors:

Programs: John Darnall

Communications: Gerald Songy

Scholarship: Victoria Curto

Young Member: William Gohres

Other Information

The activities of L.COPRI will include seminars, workshops and other activities to benefit all ASCE and COPRI members. One does not have to be an Engineer to join COPRI. These Institutes are formed for the benefit of ASCE and non-ASCE members to participate and interact with other professionals interested in coastal, oceans, ports, and riverine efforts in Louisiana. If you have any questions or to add your name to our mailing list, please contact Gerald Songy, at gsongy@moffattnichol.com.

10 FREE PDHs

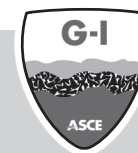
ASCE MEMBER BENEFIT

Take advantage of this exclusive member benefit! Select and participate in up to 10 one-hour ondemand webinars yearly. Earn a free PDH for each test you successfully pass.

<https://www.asce.org/continuing-education/>

ASCE-G-I Louisiana Chapter News

By Kirk Lowery PE, D. GE, Chapter Chair



GEO-
INSTITUTE
LOUISIANA CHAPTER



Kirk Lowery, PE, D. GE
G-I Chair



to follow, programs that are centered on geotechnical projects, problems, solutions and stories in an entertaining atmosphere. In this our first year, the Louisiana G-I board consists as follows:

Chairman:

Kirk Lowery, PE, D. GE

Vice Chairman:

Gwendolyn P. Sanders, PE

Secretary/Treasurer:

George F. Segré Quilichini, PE

The Louisiana Section in cooperation with the Geo-Institute of ASCE has approved a Louisiana Geo-Institute Chapter. As ASCE members you are invited to participate with the upcoming events that will be planned. To set up this institute, a great deal of credit goes to George Segré, Venu Tammineni, Ricardo de Abreau and Gwen Sanders for their perseverance and time.

We hope to provide in the near future and through the many years

We will provide more information and geotechnical news in future emails and if you would like to get involved to help coordinate continuing education, outreach or just an entertaining get-together swapping “war stories”, please contact me. kirk.lowery@arcadis.com

New ASCE Report Card Coming March 3

The American Society of Civil Engineers will release the 2021 Report Card for America's Infrastructure on March 3 as part of a virtual Solutions Summit. The quadrennial assessment will grade the condition and performance of 17 categories of infrastructure – including drinking water, roads, levees, dams, and much more. For the first time, the ASCE Report Card will include a stormwater assessment that examines the general condition, capacity, funding and more of the stormwater infrastructure sector. In recognition of the growing role telecommunications plays in maintaining and operating our infrastructure, as well as supporting daily life, the 2021 Report Card for America's Infrastructure will also include a spotlight on broadband.

After the grades are unveiled, ASCE will convene a program of elected officials, decisionmakers, and thought leaders to discuss how best to our infrastructure GPA. The half day program will feature remarks from Maryland Governor Larry Hogan, Representatives Angie Craig (D-MN) and Garret Graves (R-LA), Nucor CEO Leon Topalian, and more. Subsequent panels will delve into the specific category findings, including focused conversations on transportation, water, wastewater, and stormwater, dams and levees, ports and inland waterways, and energy. The grade reveal and half day Solutions Summit is free to attend – register here.

As always, the ASCE Report Card will include extensive recommendations to raise the grade, both in the individual infrastructure categories as well as a number of key solutions. The release of the Report Card is the first step in a multi-year advocacy campaign conducted by ASCE Key Contacts and ASCE public policy committees. As stewards of America's infrastructure, civil engineers are critical to infrastructure-related education and advocacy efforts on Capitol Hill, in state houses, and with voters across the country.

www.infrastructurereportcard.org



Janet L. Evans, PE
Government Relations Chair

Strange Times

What an interesting time in our History to hold the Government Relations Office for the Louisiana State ASCE organization.

We have an unprecedented pandemic in process, a new U.S President and Administration in Washington DC, and a greater need for infrastructure money at the local level. The new Secretary of Transportation, Pete

Buttigieg was recently easily confirmed by a vote of 86-13. He was most recently the Mayor of South Bend, Ind., and at age 39 is many firsts, one of which the youngest member of Biden's Cabinet. My hope, is that in all that is happening, maybe funding for infrastructure will be the silver lining to the clouds.

Infrastructure funding from the federal level will aid in the recovery of the economy, this is supported by AASHTO, both in the setting of 2021 policies (AASHTO Sets 2021 Transportation Policy Priorities – AASHTO Journal) and in a recent article by Jim Tymon, The Big Benefits from Transportation Investments, (<https://www.linkedin.com/pulse/big-benefits-from-transportation-investments-jim-tymon>). This article cites a Florida DOTD report which found that the state's transportation projects should generate an average of \$4 of additional benefit from each dollar invested. They went further to determine that this would hold steady across the different levels of investment short-term funding and long-term funding. Recent polls show that 88% of Democrats and 81% of Republicans view infrastructure investment ranks as "extremely important." One of the few issues which both parties agree to today.

At the local level, some are working to see if additional funding may be raised at a state level.

Most recently sponsored by the Louisiana Coalition to Fix Our Roads (LCFOR) <https://lcfor.org/>. Information reported from their website which demonstrate the States great need for transportation infrastructure funding include:

- At least 38% of our roads are in poor or worse condition.
- 1,821 bridges are structurally deficient or functionally obsolete
- 15% of the state's bridges are "substandard"
- 5th highest in the nation highway fatality rate in 2019

It is no secret that our Secretary of Transportation and our Governor, both of whom support additional investment in infrastructure if done properly, have worked hard to stretch the available transportation dollars during the past five years. We have seen projects that have been dreamed of moved forward with innovate thinking and financing. To their benefit, one study found that it is easier to get around Louisiana. We improved by three in our ranking as listed in the <https://reason.org/policy-study/25th-annual-highway-report/louisiana/> form 34th to 31st, still near the bottom. The article states, "To improve in the rankings, Louisiana needs to improve its Interstate pavement condition, reduce its percentage of structurally deficient bridges, and decrease its fatality rate. The state is in the bottom 10 for its urban Interstate pavement condition, rural Interstate pavement condition, structurally deficient bridges, overall fatality rate, and urban fatality rate."

I think we can all agree from almost every angle we look at infrastructure funding, specifically transportation funding, from anywhere would be a good thing. ASCE will begin the updated 2022 Report Card and I think I have been honored with this position to spear head that effort. Please be prepared to volunteer and help this great effort which will once again point to our need for money for infrastructure. You can see why we need it and please answer the call to help. To volunteer your expertise and services toward this important endeavor, please contact the Government Relations Committee Chair, Jan Evans at jan.evans@volkert.com.

The grades are in.

Join us
March 3rd
when we reveal
grades in 17 infrastructure
categories.

www.infrastructurereportcard.org



2021 REPORT CARD
FOR AMERICA'S INFRASTRUCTURE



Development and Advantages of Bus Rapid Transit Seminar

On December 10, the T&DI Louisiana Chapter hosted a virtual seminar on the topic of Bus Rapid Transit (BRT). BRT is a high-quality bus-based transit that contains features similar to a light rail such as dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations, intended to provide more reliable, convenient and faster service than regular bus routes. BRT is a flexible mode that can be used in a wide range of applications including suburb-suburb premium service, core city-suburb premium service, high-speed freeway service, feeder service to rail networks, mainline transit trucks in smaller cities and circulator services in downtowns.

The seminar presented the first BRT project in Louisiana that will occur on the Plank-Nicholson Corridor in Baton Rouge. This project is funded, in part, from a BUILD Grant, City-Parish, DOTD, and CATS funds. There will be roadway improvements made in conjunction with this project and it will operate from a transit center on Airline Highway, travel down Plank Road, on Florida Boulevard, and then onto Nicholson Road and terminating near LSU. The route will feature enhanced bus stops and include shelters and landscaping. The BRT line will use new electric buses and will have unique branding and is intended to encourage development in opportunity zones and lower income areas of the City.

Cheri Soileau presented the seminar and is the Director of Planning and Program Development for the Capital Area Transit System. Ms. Soileau has over 25 years of transit experience in bus service planning, transit-oriented development, and light rail projects.

Ethics Seminar

On December 16 the T&DI Louisiana Chapter hosted an Engineering Ethics virtual seminar. T&DI offered this presentation to provide engineers the opportunity to satisfy the Louisiana Professional Engineering and Land Surveying (LAPELS) Board requirement of one hour of engineering ethics training per annum. This Ethics Seminar addressed the issues of character, competency, accountability, conflicts of interest, avoiding deceptive acts, trust, and integrity as they relate to ethics.

The speaker was Jeff Pike, PE who has served on the LAPELS Board since his appointment in the academics position by Governor



Edwards in July of 2016. He is currently a senior lecturer of civil engineering and construction engineering technology at Louisiana Tech University. His +20-year investment in higher education began at the US Military Academy at West Point in 1995, where Jeff earned his bachelor's degree in engineering. He earned his master's degree in engineering from the University of Texas at Austin, Texas.

Louisiana State Science and Engineering Fair

T&DI will again be participating in the Louisiana State Science and Engineering Fair this year. The event will take place the week of March 22-26. As in past years, members of T&DI will serve as judges and present awards to the students with the top transportation and development related projects.

Looking Ahead

The intent of T&DI is to promote transportation and development as a career path, and to provide training and networking opportunities for all professionals involved in the transportation industry. If you are interested in co-sponsoring a seminar at your branch, the T&DI Louisiana Chapter has prepared a Seminar Coordinator's Check List to assist you in your preparation. Contact Joffrey Easley jeasley@forteandtablada.com for a copy of the checklist. Historically our seminars are two hours in length and are typically presented from 5:30-7:30 pm in either the New Orleans or Baton Rouge area. Recently our seminars have gone virtual and have been presented mid-day. In keeping with the intent of the Institute to provide training and networking opportunities for all professionals involved in transportation projects, the Chapter is planning the following future seminars:

- New Mississippi River Bridge – P3 Financing and Tolling
- Asset Management for Agencies
- Mitigation Banking
- Green Infrastructure: Integrating Infrastructure Needs
- Bicycle Lanes / Complete Streets
- New Orleans Armstrong Airport
- Pervious Concrete
- Bridge Approach Slabs

ASCE-UE&S Louisiana Chapter News

By Ali Mustapha, PE, F. ASCE - Newsletter Editor



UTILITY ENGINEERING
& SURVEYING
INSTITUTE

LOUISIANA CHAPTER



John Matthews, PhD
UESI Chair

The Louisiana Chapter of ASCE Utility Engineering and Surveying Institute – Louisiana Chapter (“UESI-LA”) was established in 2020 to offer professionals working within the utility, pipeline engineering, and surveying/geomatics communities the opportunity to network with others and shape the future of the industry by participating in technical activities, conferences, and the development of internationally recognized standards.

Chapter Officers 2020-2021

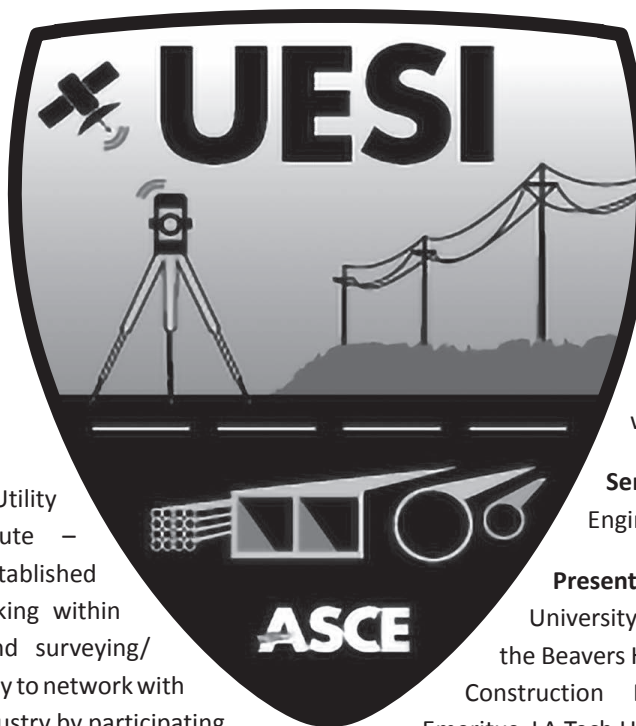
Chair: John Matthews, PhD, M.ASCE, Matthews@latech.edu

Vice Chair: Suzanne McCain, PE, LSI, M.ASCE,
Suzanne.mccain@T2ue.com

Secretary/Treasurer: Ali Mustapha, PE, F.ASCE,
alimm@bellsouth.net

Membership in UESI-LA Chapter is available to current Louisiana Section of ASCE members who select UESI as their primary or secondary Institute, as well as new ASCE members that select UESI as their primary Institute. As an ASCE member, you can join one Institute at no additional cost or add a second institute for just \$30 per year.

Individuals that would not necessarily apply or qualify for ASCE membership (technicians, vendors “salespeople”, and other non-engineers involved in utility and surveying and mapping practices) can join UESI for only \$135 per year membership fee.



Please consider joining the UESI-LA Chapter Institute which is the newest Society Institute that has been established to help support professional working in the Utility Engineering, Mapping and Surveying Industry in Louisiana.

We held our first seminar on December 17, 2020 virtually by Zoom and it was attended by 23 ASCE members who were awarded 1 PDH for attendance.

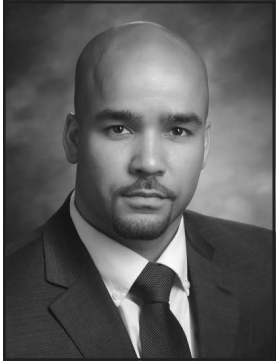
Seminar Topic: The Six Pillars of Utility Engineering (1 PDH)

Presenter: Tom Iseley, PhD, PE, D.ASCE, Purdue University Professor of Engineering Practice and the Beavers Heavy Construction Distinguished Fellow, Construction Engineering Management, Professor Emeritus. LA Tech University

Sponsor: The Webinar was sponsored by ProStar (Precision Mapping Solutions), Grand Junction, Colorado.

The Chapter is developing a plan to continue conducting quarterly virtual meetings (seminars) and is asking interested ASCE and UESI members for recommendations of topics and speakers for these virtual seminars. Also, the Chapter is asking for volunteers to serve on the Chapter’s Board and committees to help in organizing a successful institute that will meet the needs of all the Section members and serve the industry, State and local Municipal Governments.

Branch News



ACADIANA BRANCH

By Algy Semien, PE, Branch President

The last few years the Acadiana branch, in conjunction with the student chapters, has conducted a community service event at the Rockefeller refuge. This yearly outreach event brought together students to pick up litter and cleaned the waterfront. The ASCE regional level helped make this possible by providing

a grant to cover event costs. Last year we were unable to complete

this event due to the Rockefeller refuge being unavailable. We are currently looking for another location and planning to host an event in the coming months. On February 18th, we will be hosting a PDH webinar via Zoom, featuring Charles Hubbard, PE. Mr. Hubbard will be presenting on “The importance of pore water pressure and effective stress analyses in the identification, evaluation, and mitigation of construction-related failure mechanisms”. Look for registration notifications in the coming weeks.



BATON ROUGE BRANCH

By Mary “Molly” Bourgoynne, PE, Branch President

The 4th quarter of 2020 saw many challenges as the Pandemic raged on, but the Baton Rouge Branch continued to offer quality engagement opportunities to its membership. Our luncheons continued to offer in-person and virtual attendance options in October with Christopher Aaron of LAPELS for

an ethics PDH and November with Chris Feters of LA23 Devco speaking on the Plaquemine Port Development. November was also our annual food bank drive where money was raised for the Baton Rouge Food Bank supporting Feeding America. For December, we made the difficult decision to not hold our Annual Christmas Party, and instead held a donation drive for Toys for Tots. We raised over \$2,000.00!

Now well into January of 2021, we are restricting our January luncheon with Charles Sutcliff of the Louisiana Governor’s Office: Coastal Activities to virtual only as the COVID-19 numbers stay high. February, as usual, is marked by E-week on the 22nd, and in March

we anticipate a joint luncheon with LES who has booked one of our Louisiana Senators to review the recently passed Transportation Bill. Also be on the lookout for a possible field trip luncheon in April of 2021, weather allowing, and another joint luncheon with LES in May.

Above all the hardships and challenges that we have faced in recent times, I find that the constant themes are gratitude and hope. I am grateful for the strong bonds of fellowship that have survived these restricted times, and for organizations such as ours that help grow and sustain them. And even though we have new words like ‘Zoom-fatigue’, I am grateful for the technology that has allowed us to keep our relationships and businesses alive and well. I look forward to so many things in 2021, and am hopeful that the vaccine will this year allow some of the not so distant past customs back into our lives. Even though we may all come out of this experience slightly more germaphobic and certainly more well informed about epidemiology, I look forward to seeing someone’s smiling face as we shake hands, and breaking bread together again without making sure my chair is spaced properly. Most of all, my hope for 2021 is good health for all.



NEW ORLEANS BRANCH

By Andrew Woodroof, PE, Branch President

As 2020 ends and we move into a new year in 2021, ASCE New Orleans Branch have focused our efforts on finding any way possible to have positive impacts in our community while also preparing ourselves to leap into 2021 by engaging our membership in new and exciting ways.

While we were not able to gather for our annual holiday party to close 2020, we found other ways to embrace the holiday season and chose to help the community by making donations to two exception organizations that have positive impacts in our community and fulfill the mission of advancing engineering. With the support of our board and membership, the Branch made individual cash donations to the Greater New Orleans STEM Initiative (GNO STEM) and STEM NOLA. These donations provide a way to give back to our community during the holiday season within the midst of a pandemic and provide support to local nonprofit organizations. GNO STEM provides kindergarten through 12th grade math and science teachers with the tools and resources they need to deliver hands-on, minds-on learning opportunities in the classroom; while STEM NOLA designs and delivers activities, programs & events that

bring inspiration, motivation, and training to all STEM stakeholders, specifically focusing on under-served communities. In addition to the Branch donations, our members were called upon to make matching donations during the holiday season to nonprofits of their choosing.

We enter 2021 seeking to build upon the lessons learned in 2020. We are actively planning events to recruit and engage new and existing members and find new ways to get involved. Our monthly membership meetings will continue with presentations on levee safety and resilience projects across the greater New Orleans area on tap for February, March, and April. As the way we do business and engage with one another continues to evolve, we will continue to find new ways to enable our members to connect and advance themselves of Civil Engineering and within their communities.

We greatly appreciate the support of our members, and I encourage all of you to keep up with the New Orleans Branch through our website, Facebook or by contacting our board directly.



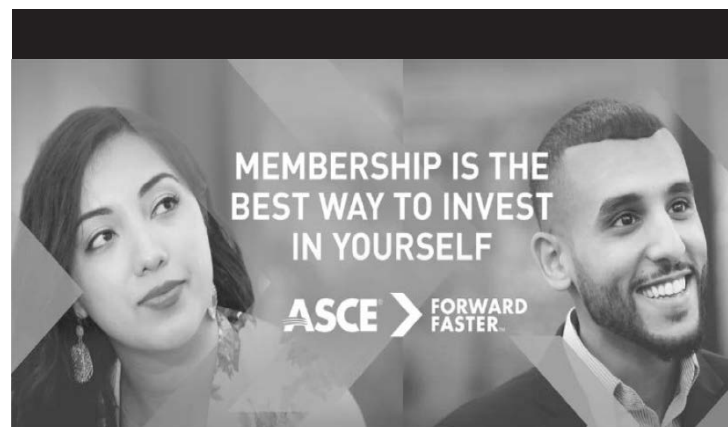
SHREVEPORT BRANCH

By Ranadeep Ravula, El, Branch President

Greetings! The Shreveport Branch wishes you all a Happy New Year and hopes that everyone had a good holiday season and staying safe.

In October 2020, our branch did not host a regular monthly member meeting.

Tom Iseley, PhD, PE, hosted a virtual presentation in December 2020 on "The Six Pillars of Utility Engineering". Tom is Distinguished Member ASCE and the professor of Engineering Practice at Purdue University. The Shreveport Branch hosted a joint luncheon with Louisiana Engineering Society which featured Derek Berthelot from Uretek in January 2021; his presentation was on polyurethane repair.



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ASCE-SEI New Orleans Chapter News

By Mark Castay, PE



Mark Castay, PE



As the 2020 year comes to an end, SEI New Orleans Chapter closes out the year with several great seminars held and new officers elected to the Executive Committee. The Chapter thanks outgoing Chairman, Kabir Mohammed, PE, PMP, for his dedication and serving the last 2 years in this role. We recognize and welcome the following members and their respective roles to the Executive Committee, Daniel Bobeck, PE (Lindfield, Hunter and Junius) was elected Chairman, James Green PE (Julien Engineering) was elected Vice Chair, for the 2021 year. James Danner, PE (Denson Engineers) remains treasurer.

The Chapter held the latest seminar titled "Performance-Based Design is the Future" presented by Donald Dusenberry, PE, SECB, F.SEI, F.ASCE on November 18, 2020. Don Dusenberry serves as a Consulting Principal at Simpson, Gumpertz & Heger where he joined the Engineering Mechanics Division in 1975. Presently he chairs a committee that it charged to develop a course to advance the profession from prescriptive to performance-based design practice. Don has written extensively on failure investigations and topics such as structural performance under extreme events including blast, fire, and disproportionate collapse. In this presentation, Don discussed how performance-based design will impact the design

profession and initiatives underway to encourage a transformation from prescriptive to performance-based approaches. Performance-based design is founded on the premise that structural systems must meet specific performance objectives. Performance expectations are set for the completed design, and processes are prescribed in minimal terms. Performance-based design therefore reverses the design process by defining the end goal as the starting point.

The engineer then engages creativity and innovation employing science and principles of structural and material mechanics, unencumbered by unnecessary and in many cases counterproductive prescriptive requirements, to identify optimal solutions to multiple, and sometimes competing objectives. The design is completed by demonstrating complying performance through analysis, simulation, testing, or a combination thereof.

This seminar had 41 attendees and was co-sponsored with the SEI FUTURES FUND/ASCE FOUNDATION to increase SEI membership and participation at the local level, promote opportunities to get involved in the SEI standards development and inform local members about the standard development process and future of performance-based codes. SEI New Orleans is proud to have been selected by SEI National to host this seminar and be selected amongst other local and regional branches throughout the nation.

The Chapter has several seminars being developed for the 2021 year on various topics, please visit www.asceneworleans.org/ events for updates on the future seminars. We can also be reached at asceseinola@gmail.com if you would like to reach out to our committee for volunteering or suggestions for future seminar. In closing, the SEI New Orleans Chapter wishes you a great holiday season and a very Happy New Year!

Student Chapter News

LOUISIANA TECH UNIVERSITY

By Sydney Bratton, ASCE Student Chapter President

Our student chapter at Louisiana Tech University had a great fall quarter and start of winter quarter. In the Fall of 2019, we held our first ever Civil Engineering Week where we had industry professionals come and speak to students about all the opportunities that the civil engineering field has. We knew that we wanted to have this event again, but we would not be able to hold in-person industry meetings due to COVID restrictions. So while last year was our first Civil Engineering week, this fall we hosted our first Virtual Civil Engineering Week! It was a great success, and we are excited to be able to continue this event for years to come. In addition to Civil Engineering week, our chapter held several interest meetings, and concrete canoe meetings.

This winter we had a team participate in the virtual Asphalt Road-eo competition. This year the goal of the competition was to research

a case study of newly placed asphalt that cracked prematurely. The team was tasked with studying it and figuring out why the premature cracking occurred and how it could have been prevented. The team documented their research and gave a virtual presentation of their findings.

Coming up, our ASCE chapter is preparing for the ASCE Deep South Conference. Although things will look different at this year's conference, we are very excited and ready to participate. We will continue to hold meeting and hope to have some more events as the year goes on. Our chapter is very excited about the events coming up, and we are looking forward to the rest of the year!

MCNEESE STATE UNIVERSITY

By Breanna Cross, McNeese Student Chapter President

When you close your eyes, what are the most memorable moments as a college student? Joining a sorority or fraternity, making lifelong friends in a dorm room, or even racing a 300 pound concrete canoe in an ASCE conference. Unfortunately for students proudly attending McNeese State University, our college experience in discovery was abruptly stopped when our beautiful campus was battered by two hurricanes within six weeks. This caused about 140 buildings to sustain massive roof damage, extensive water damage, and mold totaling up nearly 200 million dollars needed for repairs. Our campus has been closed to the public for five full months, cancelling all campus activities and restricting students from gaining the college experience every student desires. Encouragingly, McNeese has successfully restored enough key buildings to return a rough 30% of classes to face-to-face instruction for the start of the spring

semester with hopes to increase this percentage as we advance into the semester. Furthermore, amidst the damage repairs there have been renovations and improvements to various buildings and common areas underway giving hope to a brand new campus for an enhanced student life. In the end, amongst a pandemic and two hurricanes our campus faculty, staff, professors, and students have all worked together to make most out of the rubble. I am truly proud to be a student at McNeese State University. Stay strong and Geaux Pokes!

Hurricane Relief Fund: <https://mcneesefoundation.org/give/campus-emergency-fund/>

The Future Campus of McNeese: <https://www.mcneese.edu/future-campus>

UNIVERSITY OF LOUISIANA LAFAYETTE

By Peyton Bailey, ASCE Student Chapter President

Finishing up the Fall Semester, our chapter is very fortunate that we were able to meet and hold meetings during this stressful time. This has been a very difficult semester for students and professors alike, and we are thankful that it has been completed.

We are excited about the upcoming semester and are looking forward to future activities our chapter can hold.

Despite the challenges that we faced this semester, our chapter was successful in several ways. We managed to hold several virtual

meetings and one in-person meeting. We held fundraising events and organized teams for the Deep South Conference taking place in the upcoming spring semester.

Looking forward, we are excited for another semester at UL, and we are excited to work more on our competitions for the Deep South Conference. For next semester, we are working hard to plan meetings, fundraisers, and various events. We are hopeful that we will be able to accomplish more than we have this semester despite the continued challenges we face due to the ongoing pandemic.

UNIVERSITY OF NEW ORLEANS

By Andrey Romanov, Student Chapter Secretary



Alvaro Carvajal, our current Steel Bridge Captain, working on the steel bridge back in 2019"

As another challenging semester has passed, ASCE UNO is looking forward to seeing what 2021 will bring to us. While the last two months of 2020 proved to be uneventful, we have started preparations for the upcoming Steel Bridge, Concrete Canoe, and Surveying competitions.

Last Spring, UNO students were working hard for that year's Conference, which ended up being cancelled. We will make sure that their work did not go to waste. Continuing UNO's rich tradition of participation in Conference is very important to us. As majority of the people who went in 2019 already graduated, there is less and less experienced students who can guide and lead us in the right direction. Making sure we do our best this year ensures that the people participating in 2022 will not have to start from scratch.

2021 Officers:

President: Weston Mitchell

Vice President: Austen Dooley

Secretary: Andrey Romanov

Treasurer: Kyle Knighten

Conference Chair: Karena Grigenas

Social Chair: Alexis Hornsby

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LOUISIANA STATE UNIVERSITY

By Emily Rone, ASCE Student Chapter President

American Society of Engineer at LSU started their 2021 Spring semester by hosting a Student Guide to the STEM Career Fair hosted by LSU on February 10th. Over the January month, our Recruitment Chair Officer, Madalyn Mouton, has held class presentations to introductory civil engineering classes that resulted in 40 students joining the ASCE GroupMe. As incentives for students to join the organization and its meetings, we have decided to raffle off old ASCE t-shirts in place of the free food that would have accompanied in-person club meetings. We have also entertained the idea of having boxed meals for pick-ups on upcoming club meetings. We plan on becoming more involved with our volunteer outreach which our Officer Hong Zhu is passionate about.

Recruitment for the Deep South Student Conference Coordinators was a struggle at the end of last semester, but this semester we were able to find students to take the leadership positions. In addition, we have successfully filled our Bayou Regional Career Fair Chairs and both Officers are excited to plan this part of the Conference. Advertising for the meetings was effective when a copy of the flyer was sent out in a mass email to CEE students. Because of this, many students have reached out about the ASCE scholarships that was

sent out that January month.

Our weekly meeting will be hosted by each of our officers rather than the president alone in order for each to take the opportunity to strengthen their leadership & presenting skills. As the Fundamental Engineering Exam is of importance for ASCE members, we have utilized practice questions as a chance for students to win a free ASCE t-shirt. Apart from this, officers are also considering other fun alternatives for the members to become more engaged and entertained through zoom meetings.

Overall, LSU ASCE has come up with amazing ideas to continue increasing student involvement and membership engagement through this unique time. ASCE plans to not be hindered by these limitations but hope to thrive and create a wonderful experience for students.



— CALENDAR OF EVENTS —

2021

April 2021, Louisiana Section Annual Spring Conference, details TBA

April 27 & 28, 2021 - 25th Annual Joint Engineering Societies Conference at the Cajun Dome in Lafayette

- Speaker, sponsor and exhibitor opportunities are available
- Registration is now open

Events are constantly being updated online:

For ASCE Society events please see online:
https://www.asce.org/conferences_events/
https://www.asce.org/student_conferences/

For ASCE Baton Rouge events please see online:
<http://branches.asce.org/baton-rouge/events>

For ASCE Shreveport events please see online:
<https://www.facebook.com/ASCEShreveport/>

For ASCE Acadian events please see online:
<http://branches.asce.org/acadiana/events>

For ASCE NOLA events please see online:
<http://asceneworleans.org/events/>

For more events visit the ASCE Events Calendar: <http://www.lasce.org/calendar.html>

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