

AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO

Transportation Vanguard Award Nomination Form

2016

INFORMATION ON NOMINEE:

| | | | |
|---|----------------------------|---|--------------------------|
| Last Name: Cutts | First Name: Ross | Date: 7-22-16 | |
| Email: rcutts@sha.state.md.us | | Position Title: Field Manager | |
| Department: Office of Materials Technology's Engineering Geology Division | | Phone: 443-572-5168 | |
| Street Address: 7450 Traffic Drive | City: Hanover | State: MD | Zipcode: 21076 |
| AASHTO Committee Membership (optional) | | | |

NOMINATOR INFORMATION:

| | | | |
|--|-------------------------------|---|--------------------------|
| Last Name: Johnson | First Name: Gregory | Date: 07/22/16 | |
| Email: GJohnson1@sha.state.md.us | | Position Title: Administrator | |
| Department: Maryland State Highway Administration | | Phone: 410-545-0411 | |
| Street Address: 707 North Calvert Street | City: Baltimore | State: MD | Zipcode: 21202 |
| Endorsement of Member Department Secretary/Director:  | | | |

INSTRUCTIONS:

Using a maximum of 2 additional single-sided pages, please provide reasoning as to why this individual should be selected as the Transportation Vanguard Award recipient. Please include as much specific information about the candidate as possible, including special projects, personal attributes, dedication, etc.

Send nominations by **Monday, July 25, 2016**, via e-mail to mvitale@aaashto.org. Nominations must be submitted as a single file in MS Word format using **TVA2016_Nomination_Nominee_Name.doc** as the file name.

Larry Hogan, *Governor*
Boyd K. Rutherford, *Lt. Governor*



Pete K. Rahn, *Secretary*
Gregory C. Johnson, P.E., *Administrator*

July 22, 2016

American Association of State Highway and Transportation Officials (AASHTO)
Attn: Transportation Vanguard Award Evaluation Committee

Dear Evaluation Committee:

It is with great pleasure that I nominate Mr. Ross Cutts, Professional Engineer, for the 2016 AASHTO Transportation Vanguard Award in recognition of his outstanding leadership and tireless efforts in developing and implementing new technologies within the Maryland State Highway Administration (SHA). Over the past five years working as a state engineer, Mr. Cutts has initiated and served as the principle investigator for the following research projects in addition to his standard position responsibilities:

1. Recommended Ground Penetrating Radar (GPR) Analysis Techniques for Condition Assessment and Ranking of Bridge Decks and Pavements and Testing Protocols for Precast Concrete Elements

- This is a multi-phase project that has been selected as an AASHTO 2015 Sweet Sixteen High Value Research Project.
- SHA has partnered with industry to develop automated and standardized GPR processing methodologies for scanning bridge decks and pavements.
- Currently, this project is moving from research to production with over 300 state structures slated to be scanned this year.
- The project's current success has prompted SHA to revamp the bridge deck remediation process from "worst first" to a remaining service life program.

2. Evaluation of Surface Abrasion as a Pavement Friction Remediation Method

- This research project evaluated the long term effectiveness of surface abrasion.
- The project findings yielded SHA a viable treatment option to economically remediate low pavement friction and/or wet skid resistance directly and in isolation.
- Successful project results initiated the development and use of annual state wide contracts for surface abrasion.

3. Evaluation of Polyurethane Injection for Concrete and Composite Joint Remediation

- This project looked to develop an economical and long term remediation method for joint reflective cracking in composite pavements.
- Research findings indicated that this treatment option only worked when reflective joints were heavily damaged and when degraded joints were not heavily damaged. Given the difficulty of assessing existing joint damage, this treatment option has not been used outside of this research project.

My telephone number is [443-572-5037](tel:443-572-5037) My toll-free number is [1-866-926-8501](tel:1-866-926-8501)
Maryland Relay Service for Impaired Hearing or Speech 1.800.735.2258 Statewide Toll Free

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In addition to overseeing various research projects, Mr. Cutts has developed and integrated various in-house programs and procedures within SHA that exemplify the AASHTO Transportation Vanguard Award emphasis on innovation. These programs are as follows:

1. Electronic Field Exploration Data Collection, Processing, and Requesting

- Mr. Cutts has spearheaded and is working with various stake holders to build an in-house electronic field data program that automates the data collection, movement, and processing of field data. The data includes everything from pavement cores to geotechnical borings.
- This program integrates multiple modules including Geographical Information System requesting tools, tablet based field data collection, and custom automated processing and reporting tools.

2. Automated Remaining Service Life Pavement Design Calculations

- Mr. Cutts developed an in-house program that collects and processes all pavement condition data for any Maryland state pavement section. This automated the design process and allowed engineers the ability to compare and process multiple pavement designs in a timely and efficient manner, ultimately yielding more cost effective pavement designs.

All of these programs and research projects have saved significant time and cost by providing SHA with new and innovative tools and processes. When looking at it as a whole, it is astounding how the efforts of one person can truly make a difference in a state agency.

In addition to the contributions Mr. Cutts makes to SHA and the Maryland traveling public, he also donates his time to the transportation and geotechnical profession through the following roles:

- Committee Member for Appalachian Coalition for Geological Hazards in Transportation
- Committee Member for the Transportation Research Board Committee "Application of Emerging Technologies to Design and Construction, AFH30"
- Committee Member of Geo Virginia

As someone who has been inspired and continuously impressed by Mr. Cutts' dedication to innovation and improvement in our industry, I strongly urge you to award Mr. Ross Cutts the 2016 AASHTO Transportation Vanguard Award.

Sincerely,



Sejal Barot
Director