

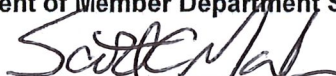


Transportation Vanguard Award 2020 Nomination Form

Who is being nominated?

Last Name: Greenfield	First Name: Tina	Date: September 28, 2020	
Email: tina.greenfield@iowadot.us		Position Title: Management Analyst 3- RWIS Coordinator	
Department: Iowa Department of Transportation		Phone: 515-233-7746	
Street Address: 800 Lincoln Way	City: Ames	State: Iowa	Zip code: 50010
AASHTO Committee Membership (optional): Click here to enter text.			

Who is nominating this person?

Last Name: Bargfrede	First Name: Craig	Date: September 28, 2020	
Email: craig.bargfrede@iowadot.us		Position Title: Winter Operations Administrator	
Department: Iowa Department of Transportation		Phone: 515-290-2713	
Street Address: 800 Lincoln Way	City: Ames	State: Iowa	Zip code: 50010
Endorsement of Member Department Secretary/Director (signature):  Scott Mah, Director, Iowa DOT			

Instructions:

Using a maximum of 2 additional single-sided pages, please explain why this individual should be selected as the 2020 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 **September 30, 2020**, via e-mail to jdawkins@aaashto.org. Nominations must be submitted **as a single file** in Microsoft Word format using **TVA2020_LastName_FirstName.doc** as the file name.

September 28, 2020

Jim McDonnell, P.E.
Director of Engineering
AASHTO
555 12th Street NW, Suite 1000
Washington, DC 20004

Dear Jim,

I am writing today to nominate Tina Greenfield for the AASHTO Transportation Vanguard Award 2020. Tina exemplifies the definition of "Vanguard" as she has been involved with many cutting-edge technologies over her nearly sixteen-year career with the Iowa Department of Transportation.

Tina earned both a Bachelors (2002) and Master's (2004) Degrees in Meteorology from Iowa State University. She started in the Office of Maintenance in 2004 as a member of the Winter Operations Team where she continues to work today. In addition to her Iowa DOT duties, Tina currently serves as the Chairman for the Transportation Research Board Winter Maintenance Committee plus she serves as the Iowa DOT representative on the Aurora Pooled Fund Committee. Her creativity and innovative thinking in winter operations has distinguished her as a nationwide expert in this field.

Utilizing her background in meteorology, Tina has developed the Iowa DOT's Road Weather Information System (RWIS) into a very mature system across the state of Iowa. She plays an integral part in implementing and managing this system of permanent and portable stations that provide critical data to our field staff during winter operations. She has been successful in incorporating the weather data generated by these weather stations into different models and dashboards utilized by the Department in overseeing winter operations. This information has resulted in a more efficient and effective winter operations program that increased public safety.

One such dashboard developed by Tina is the Departments Winter Severity Index. She incorporated the weather data generated by the RWIS stations along with data from the National Weather Service into this Winter Severity Index model giving the Department the ability to monitor the severity of the winter season. This index allows the Department to not only track the severity of the current winter season, but to compare previous winter seasons and analyze historical trends across the state. This information is then linked to the Department's historical material usage data giving us the ability to predict future material usage at any given time during the winter. This information is also used to analyze current winter operations budget status and identify potential budget impacts due to the winter severity. This information is provided to DOT Management who uses the information to provide updates to the Governor's Staff and the State Legislature on Winter Operations.

Another innovative dashboard Tina has created is our Salt Dashboard. This dashboard pulls in weather data, Road Service Level information, Annual Average Traffic Data (AADT) and uses various formulas to calculate salt allocation across the state. This allocation can be viewed at the state level, the district level or down to the individual garage level. This dashboard then compares the amount allocated to the garage to the actual salt usage reported by the garages on their daily logs to come up with a "percent of target". The purpose is to see if material usage is within target based on the model's inputs. Using this model, our

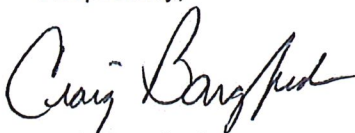
field staff can monitor, and track salt usage very closely and quickly identify problems. This dashboard has been a key tool to helping the Department manage material usage, reduce material usage and improve winter operations. Other state DOT's seek out Tina's knowledge and expertise in the area of weather services and the use of these dashboards.

Tina was instrumental in using technology to develop the Department's Plow Cam program. Connecting into the modems used in our Global Positioning System/Automated Vehicle Location (GPS/AVL) system, Tina helped develop a method of capturing photos of road and weather conditions using a forward-facing camera mounted in the cab of all 900+ snowplow trucks in the Iowa DOT fleet. These cameras are programmed to take pictures every five minutes and then push the photos to DOT servers where they are processed and posted to our public facing 511 website and to our internal GPS/AVL website. This information has been very popular with our staff, the media and the general public. Media outlets use this information in their weather forecasts to show current conditions as seen by a DOT snowplow. The general public has access to see these photos along with road conditions on 511 to assist them in making travel decisions. Our staff uses this information in many ways to monitor conditions and to gauge when storms will impact their area of responsibility. This program has increased public safety for the citizens of Iowa, and it is due in large part to Tina's efforts.

Tina is heavily involved with winter operations research projects both at the state and national level. In addition to her role with the TRB Winter Maintenance Committee, she leads a research committee within the Iowa DOT that is comprised of field maintenance staff members from across the state. She and her committee have been involved with projects covering everything from new equipment on snowplow trucks to snowplow route optimization projects to looking at innovative ways to utilize winter operations data. Her critical thinking skills and knowledge of data management have been key to the success of these projects.

These are just a few examples of the positive impacts Tina has made on the Iowa DOT's winter operations program. Tina's strengths are her analytical skills and problem-solving abilities. She is customer focused and concentrates her efforts on providing quality service and products to our field staff. She performs all tasks assigned to her in a professional manner and always displays a positive can-do attitude. Tina has distinguished herself as a leader in the Office of Maintenance and the Iowa DOT and is deserving of this recognition. She would be an excellent choice to receive the AASHTO Transportation Vanguard 2020 award.

Respectfully,



Craig Bargfrede
Winter Operations Administrator
Iowa Department of Transportation