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Transportation Vanguard Award 2020 Nomination Form

***Who is being nominated?***

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| --- | --- | --- |
| **Last Name: Buck** | **First Name: Steven** | **Date: September 29, 2020** |
| **Email: Steven.Buck@dot.state.fl.us** | **Position Title: Supervisor and Production Manager** |
| **Department: Roadway Design** | **Phone: 386-943-5171** |
| **Street Address: 719 S. Woodland Blvd.** | **City: DeLand** | **State: FL** | **Zip code: 32720** |
| **AASHTO Committee Membership (optional):** Click here to enter text. |

***Who is nominating this person?***

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| --- | --- | --- |
| **Last Name: Perdue** | **First Name: Jared** | **Date: September 29, 2020** |
| **Email: jared.perdue@dot.state.fl.us** | **Position Title: District 5 Secretary** |
| **Department: Florida Department of Transportation, District 5** | **Phone: 386-943-5474** |
| **Street Address: 719 S. Woodland Blvd.** | **City: DeLand** | **State: FL** | **Zip code: 32720** |
| **Endorsement of Member Department Secretary/Director (signature): Kevin J. Thibault, P.E.  *(Electronically Signed)*** |

***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@aashto.org****.** Nominations must be submitted **as a single file** in Microsoft Word format using ***TVA2020\_*** ***LastName\_FirstName.doc*** as the file name.

**Steven Buck Nomination for the 2020 AASHTO Vanguard Award**

In a room full of engineers, you will likely find several candidates who can think outside the box and develop innovative solutions. The bigger challenge is identifying that vanguard who is willing and able to evaluate the possibilities, see how the ideas can benefit the bigger picture, and then lead a team and an organization to successfully implement those ideas. The Florida Department of Transportation, District Five, is fortunate to have that person in Steven Buck, P.E., a true vanguard who drives innovations in safety, operations, staff development, and cost-effectiveness.

Steven is a Roadway Design Supervisor and Production Manager, leading a team of young engineers and trainees, as well as outside consultants. Though he works in Roadway Design, he supports and contributes to improvements, problem solving, and policy advancement across disciplines. A recipient of the State Secretary Award for Innovation and Efficiency in 2020, Steven regularly identifies opportunities for process improvements and demonstrates bold thinking in all areas of planning and design development.

**Advancing Agency Priorities**

* ***Vital Few Task Teams:*** FDOT Secretary Kevin Thibault created the Vital Few Initiative to identify strategies and best practices that improve safety, enhance mobility, and inspire innovation. Steven leads the Vital Few Task Team for Intersections, which is tasked with innovative ways to move the needle and help the Department realize its goal of zero fatalities and serious injuries.

“Steven has provided exemplary leadership and support in ensuring that the Department continues to promote safety and innovation. His creativity, strong work ethic, commitment to building a culture that fosters continuous improvement to help move the Department forward,” said Alison Stettner, Director of FDOT’s Office of Policy and Planning. “Steven has worked with an interdisciplinary team to create a series of strategies that will re-energize the Department on improving safety.”

* ***Attract, Retain, Train:*** Steven is a dedicated and effective mentor who encourages, challenges, and walks alongside Florida’s next generation of transportation innovators. His suggestions presented to leadership in September 2018 for improving the way openings are advertised and increasing participation in job fairs and student outreach have helped significantly boost the number of department applicants and hires.

As colleague Lori Epperson, P.E., said, “Steven is a once-in-a-lifetime supervisor, colleague, and, most importantly, mentor. His unparalleled passion and enthusiasm, as well as his capacity for pushing the boundaries of innovative design, operations, and processes; inspire those who work for him and alongside him to continuously think outside the box. We are encouraged to take opportunities to learn something new and different, and to never stop asking, ‘why?’ and ‘why not?’. This mentality has opened the door for so many opportunities that, as a young engineer, I may not have been exposed to anywhere else.”

**Advancing Innovation**

In addition to leading the Vital Few Task Team for Intersections, Steven serves on several of the Department’s innovation visioning teams. He is a key contributor to the NextGen Plans Production Task Team and 3D Quality Control Task Team, and he leads the State with the incorporation of 3D modeling through all phases of project development and construction. Examples of Steven’s contributions toward innovation are as follows:

* ***Innovation Roundtable Webinars:*** To facilitate districtwide sharing of ideas among Department staff and consultant engineers, Steven developed in summer 2019 a series of educational opportunities called Innovation Roundtables, which are held throughout the year. These webinars provide a platform for learning and creative exchanges to advance the topic a step farther. The webinars are recorded and shared for on-demand viewing. A sample can be viewed at [https://youtu.be/Cmzb8EIxXa8](https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fyoutu.be%2FCmzb8EIxXa8&data=02%7C01%7CCarolyn.Fitzwilliam%40dot.state.fl.us%7C54e42aa357cc4aee8b1b08d84f64a532%7Cdb21de5dbc9c420c8f3f8f08f85b5ada%7C0%7C0%7C637346640982106015&sdata=QFTDEZS0xZxz2RVW2ZMaiEN%2BH7YLF8VqZjF6mhWzr%2FI%3D&reserved=0).
* ***3D Modeling***: Steven developed a low-cost, low-effort, high-benefit 3D modeling approach using existing available LIDAR survey data that allows for more accurate design and construction estimates by providing more accurate tie-down points to existing ground during the Project Development & Environment (PD&E) Study phase. He used a similar approach to evaluate profile and drainage issues during the development of maintenance of traffic phases. In October 2019, Steven prepared and facilitated the *Utilizing OpenRoads Modeling to Develop and Analyze MOT Concepts* workshop for an international audience as part of Bentley System’s OpenRoads Special Interest Group webinar series. The workshop included live demonstrations for using modeling to develop MOT for a two-lane to four-lane widening project, a single-lane roundabout, and a minor urban reconstruction.
* ***AMG + 3D Modeling:*** In 2019 and 2020***,*** Steven is leading several pilot projects under construction and design that use the Automated Machine Guidance (AMG) technology to increase efficiency and provide a better product to the traveling public. One such example is the first AMG pilot project in the State of Florida, a 2.8-mile greenfield multi-use trail in Volusia County, which is currently under construction. Other examples include a 5.75-mile resurfacing project with extensive cross-slope correction on I-95, a new DDI interchange on I-75, and many other milling and resurfacing projects. These projects all deliver BIM files to the contractor to use on the AMG equipment.
* ***Project Visualization***: Public engagement and education are vital when introducing new roadway designs. Steven researched, scoped, and successfully implemented the use of creative imaging to develop 3D animated virtual tour for a 2019 lane elimination design project that added pedestrian and bicycle accommodations and incorporated speed management features. Additionally, he used creative imaging to develop photo simulations, overall plan view renderings, and 360-degree virtual reality images the public can view using VR goggles for the August 2019 public meeting for the project. The videos can be seen on the project website [www.cflroads.com/441139-1](http://www.cflroads.com/441139-1).
* ***Alternative Interchange/Intersection Design:*** Steven serves on the District’s Intersection Control Evaluation Committee and has contributed to the development of roundabouts, Diverging Diamond Interchanges (DDI) including a new interchange on I-75 in Marion County, displaced left-turn intersections, and restricted-crossing U-turn (RCUT) intersections that are now in design.
* ***Pedestrian and Bicycle Safety:*** Steven has a passion for pedestrian and bicycle safety and partnering with colleagues throughout the Department to develop strategies around engineering, education, and enforcement efforts. He is designing a Pedestrian and Bicycle Safety Pilot Project along Orange Blossom Trail (U.S. 441) in Orlando, which has experienced a high number of pedestrian and bicycle crashes. The design uses strategies to reduce speeds and encourage safe crossing at crosswalks, including median treatments and landscaping, enhanced pavement markings, raised crosswalks, and ground-level warning signals at crossings with Pedestrian Hybrid Beacons (PHBs). Steven is using the 3D project visualization techniques to educate the community users. He was honored by the FDOT in 2018 with the Alert Today Alive Tomorrow Award.

**Advancing Operations**

* ***Constructability/Pavement Design/MOT Meetings*** - In 2017, Steven developed the concept and format for meetings to review a project’s constructability, biddability, pavement design/approach, and maintenance of traffic (MOT) concepts. Conducted with both design and construction, the meetings have helped to minimize bid questions/letting delays, and field issues during construction.
* ***Pedestrian MOT Investigation and Development*** - Steven has been in the forefront of FDOT’s concentration on the safety of bicyclists and pedestrians in construction work zones. His communication with Central Office describing challenges to designers and advancing practical solutions stimulated revisions to the FDOT Design Manual and Standard Plans on this issue in 2019 and 2020.

**In Summary**

FDOT’s vanguards are vital to fulfilling the agency’s mission to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity, and preserves the quality of Florida's environment and communities. Steven is a vanguard who contributes daily to innovation, efficient use of resources, and leveraging FDOT’s exceptional position as a state transportation agency.

“Steven embraces bold thinking and inspires those around him to accept every challenge as a possibility to find that next great innovation,” said FDOT District Roadway Design Engineer Jeff Cicerello. “He leverages the skills and talents of his team, promotes creativity in problem solving, always searches for better and more efficient solutions, and fosters an exceptional, collaborative culture. He truly is leading the way to tomorrow’s successes.”