



## Phillip (Brad) Freeze, PE

Director of Traffic Operations Division

Tennessee Department of Transportation (TDOT)

### Nominated by



### BIOGRAPHY FOR BRAD FREEZE

A TDOT employee since 2003, Brad is currently the Director of the Tennessee Department of Transportation (TDOT) Traffic Operations Division. Over the last 9 years, Brad has led the creation and development of the traffic operations division to maximize the capacity of Tennessee's existing transportation infrastructure. He oversees TDOT's Transportation Management Program, which includes the four Regional Traffic Management Centers (TMC) and TDOT's HELP Program. Additionally, his responsibilities include the oversight of Intelligent Transportation System (ITS) projects and the State Traffic Engineer Office.

Outside of TDOT, Brad is also the Chair for the National Operations Center of Excellence (NOCoE) Technical Advisory Committee, the Chair of the Traffic Operations Subcommittee of the AASHTO Committee on Transportation System Operations. He is also a member and past President of ITS Tennessee and the Chair of the Technical Committee of the TennSMART Consortium.

Brad was nominated at a TSMO champion jointly by Tennessee DOT, Vanderbilt University and Gresham Smith.

### WORKING TO ADVANCE TSMO

#### Implementation of TSMO in TDOT

Leading Change Where You Are: Brad Freeze has been a champion for TSMO long before he was in a leadership role and prior to the creation of TDOT's Traffic Operations Division. In the early 2000s, a prior TDOT champion for TSMO had completed their career and service, and several years had passed without a clear successor to carry to torch. Starting in 2011, Brad took the initiative to look beyond his design-oriented job description. When technical challenges emerged on projects under construction, Brad made personal sacrifices to research solutions when he could have easily stayed in a design silo based on his defined role at the time. Brad also proactively reached out across the Planning, Maintenance and Construction Divisions as well as the Regions responsible for operating the TMCs to build momentum for a more formalized approach to TSMO. TDOT's Executive Leadership took notice and initiated a top to bottom review process across the organization that was completed in 2012 and resulted in the formation of the Traffic Operations Division in 2013. As an external advisor to the process, it was clear that TDOT had

a strong champion in Brad to lead the new Division. Brad made TSMO a new way of doing business at TDOT, but never forgot where he came from and what it takes to be a champion from within.

Maturing Capability through Leadership: As an early leadership step, Brad initiated a capability maturity model assessment of TDOT's TSMO program to create a baseline for the newly formed Traffic Operations Division in 2014. This led to improved coordination with the Design Division to identify TSMO solutions that could deliver results much faster than traditional capacity improvements. Brad also engaged TMC and Traffic Incident Management stakeholders in the design process to capture the input of end users, leading to better consensus on solutions. With Brad's leadership, TSMO has become more mainstreamed into TDOT's Long Range Transportation Plan, Strategic Highway Safety Plan, and regional congestion management studies. Brad cultivated a critical partnership with the IT Division resulting in more efficient use of technology and consideration of enterprise level support needs early in the design process. Brad leads a very

diverse and far reaching TSMO Program at TDOT and has introduced new solutions to Tennessee including active traffic demand management and predictive analytics. Projects such as the I-24 Smart Corridor, I-24 Open Roads Test Bed, ITS Expansion Projects, and the Traffic Signal Modernization Program are examples of advancements and progress made this year. He rolls up his sleeves to secure funding. In the last year alone, he has led efforts to secure over \$20M in USDOT grants based on innovative project concepts including using Artificial Intelligence for Integrated Corridor Management. Brad leads by example, and no one out works him when it comes to his commitment and passion for public service.

## **EFFORTS IN TSMO KNOWLEDGE TRANSFER**

Galvanizing Support throughout Tennessee – Brad has served as President and long-time Board member of ITS Tennessee and is the Chair of the Technical Advisory Committee for TennSMART, an organization focused on advancing intelligent mobility solutions throughout Tennessee. Through these efforts, Brad has taken every opportunity to advocate for TSMO. Brad is also actively working in partnership with the Tennessee Traffic Signal Users Group to advance a brand new TDOT support role in traffic signal operations and maintenance, while also providing guidance on connected vehicle deployment. Through TDOT's Research Program, Brad currently has tasked university partners at Memphis, Middle Tennessee State, Tennessee (Chattanooga and Knoxville), and Vanderbilt with tackling the hardest TSMO questions. He looks for researchers to advance transformative research technologies into TDOT practice. He is establishing a high bar of excellence that challenges TDOT to elevate TSMO to the next level. He is enabling a culture of TSMO innovation within and beyond TDOT by leading government, industry, and academic teams to tackle bold problems on accelerated schedules, and on budget.

Giving Back to the TSMO Community Beyond Tennessee – Brad Freeze works tirelessly to advocate for and contribute to the advancement of the TSMO industry. This year, he has provided leadership in the national organizations including AASHTO CTSO Working Groups, and the National Strategy for Highway Automation, and NOCoE to name just a few. Brad is also part of the leadership team for the US DOE funded CIRCLES project with partners that include Berkeley ITS, Toyota, GM, Vanderbilt, Arizona, Rutgers Camden, and Temple. Through this project and TDOT's I-24 Open Roads Test Bed, Brad is leading a transformative operational concept where the CAV technologies developed in industry and academia are used to smooth traffic flow. Brad never stops thinking about how TDOT can perform better and unlock new ways that TSMO can transform how we serve all transportation users.