TRANSPORTER

Commissioner Diane Gutierrez-Scaccetti

New Management System Streamlines Multiple Databases

One man's vision becomes a transformational information hub

Inspiration can come at any moment and in any place – even when ordering a sandwich at a local Wawa. Yes, that was when it struck Andrew Tunnard, Assistant Commissioner, Transportation Operations, Systems & Support (TOS&S), on how to revolutionize information sharing at NJDOT. While ordering lunch at the kiosk with Urvi Dave, formerly TOS&S Administrative Analyst 4, he shared his vision of creating a platform that would aggregate data from various units, and provide a menu of assets, much like the system that they were using to order lunch.

This system would bridge all units, allowing data to be transparent, drive informed decision-making, and create pathways to efficiency. The system would provide complex datasets that are required for budgeting and cost analysis, helping to reduce costs and increase productivity. In short, the system would change the entire manner in which staff accessed and shared information. Urvi embraced the vision of a better solution and began brainstorming.

In October 2020, after years of planning and hundreds of work hours, NJDOT released the first iteration of the Transportation Asset Managemen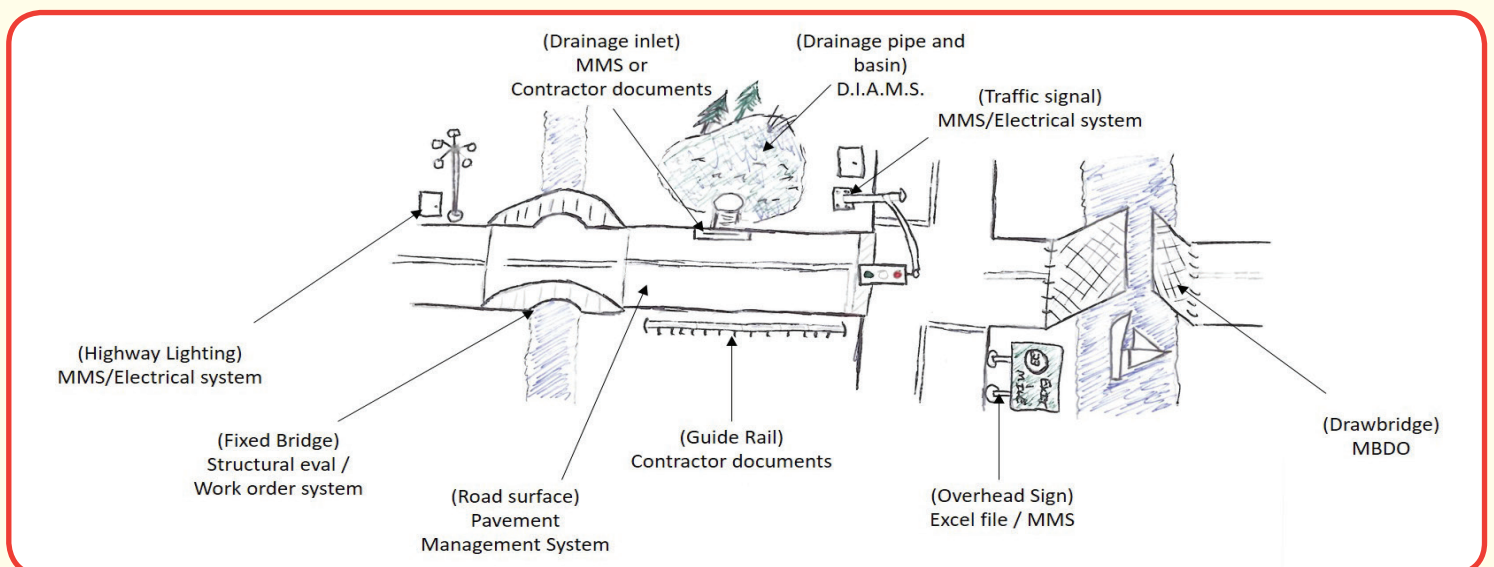t System (TAMS). After a year of operation, TAMS is becoming the asset management hub that will transform the way we share Department information for years to come. The new system replaces the inefficient legacy Maintenance Management System (MMS) and numerous other software applications used by various units that made data sharing cumbersome and fact-finding a challenge.

What Is TAMS

TAMS is a Software as a Service (SaaS) solution that integrates all of the TOS&S maintenance assets into a single platform. TAMS provides field and office staff with a system that includes a menu of services, equipment, materials, locations and more that are used in their daily activities. It is accessible from any location, at any time, for data input, reporting and analyzing. Assets include labor, equipment, material, projects, budgets, all state owned and maintained roadways, electrical assets, bridges, and traffic signals, etc. More than 500,000 assets in approximately 64 categories are available in the TAMS menu.

Staff can input real-time data of all work

(Drainage inlet) MMS or Contractor documents

(Drainage pipe and basin) D.I.A.M.S.

(Traffic signal) MMS/Electrical system

(Highway Lighting) MMS/Electrical system

(Fixed Bridge) Structural eval / Work order system

(Road surface) Pavement Management System

(Guide Rail) Contractor documents

(Overhead Sign) Excel file / MMS

(Drawbridge) MBDO

Andrew Tunnard, Assistant Commissioner, TOS&S, the visionary behind the TAMS system, shared his original concept graphic and stated, "This is a hand drawn depiction of the original concept of TAMS. It was meant to show the disparate asset management systems and how we had the potential to merge them into one system. The new system gives users visibility into work performed on all assets."

activities from the field or office, including labor, materials, and equipment used for every maintenance project, with a date and time stamp of work begun and completed. This information goes into the Geographical Information System (GIS) with assets displayed on a map. When the user opens the asset on the map, it displays a before and after picture of the maintenance or project work completed, along with all of the other pertinent project information, providing a complete history from construction/installation to end of life in real-time.

Senior Management will now have easy access to all assets through the TAMS smart dashboard for reporting, planning, budgeting, and risk assessment. TAMS creates a synergy between staff of varying responsibilities by making data accessible to everyone in a manner that has never before existed in the Department. Using machine learning, the system will accumulate data enabling predictive asset maintenance and replacement scheduling. It will also allow repetitive problem locations to be identified, tracked, and addressed. Managing labor and allocating for overtime also will now be based on real-time data analysis. In addition, it will facilitate faster and more accurate report generation for Federal funding reimbursement.

TAMS Today

An Emergency Call Records form (EL-15) often mobilizes TOS&S staff when maintenance is required. The TAMS platform integrates the EL-15 form allowing for the tracking of all activities including labor and equipment costs, weather and special events, while providing GIS location and images.

TAMS by the Numbers Since Launch:

- **Activity Reports**: Nearly **90,560** daily activity reports have been entered into the platform.
- **Potential Claims:** Nearly **4,050** activity reports have been identified by field crews as potential claims for reimbursement with the newly added early detection TOS&S functionality.
- **Major Events:** Nearly **44** major weather events have been recorded.
- **Emergency Call Records (EL-15 records)**: More than **30,295** EL-15 reports have been documented.
- **Public Problem Reports: 4,219** Public Problem Reports (PPR) have been submitted and administered by the Central Dispatch Unit and acted on by field crews. This is a 14% increase in public reporting from the prior system. PPR replaced the public Pothole Hotline webpage.

The Future of TAMS

TAMS is scalable to other units and will provide all designated staff with platform access, allowing cross-unit data input and retrieval. The cross-unit platform will create an easy, efficient and transparent tool that will make the entire Department more efficient and productive.

Retiring Employee Insights
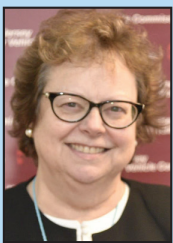
Susan Pigula retired after a 25-year state career with 20 of those served at NJDOT. Sue rose through the ranks from a Legal Intern at the Office of Attorney General to Legal Investigator at the State Ethics Commission (formerly Executive Commission on Ethical Standards). At NJDOT, she began as a Research Analyst; then Administrative Analyst; Manager, Bureau of Legislative Analysis; culminating her career as the Director, Division of Legislative, Administrative and Regulatory Actions.

Sue credited mentor Dave Kuhn for encouraging her to "step out of her comfort zone" and Deb Stevenson for stating that at times, she needs to be "professionally persistent."

Her proudest NJDOT accomplishment was in 2003, when she was involved in drafting amendments to the Transportation Trust Fund Act and her subsequent work on each reauthorization bill.

"Working at the Department of Transportation, I am reminded daily of the depth of knowledge, experience and commitment we have here," Sue shared. Congratulations and enjoy retirement Sue!

Retirees

August 2021

Mahesh Choudhary, 34 years	Luis Limo, 36 years	Cherie Shreve, 37 years
Karen Hartle, 54 years	Robert Motley, 25 years	Susan Gresavage, 38 years
Sharon Hartmann, 36 years	Juan Toledo, 25 years	Kamlesh R Shah, 33 years
Dean Jack, 31 years	James Hood, 34 years	Scott Thorn, 35 years