

# VDOT BREAKS STATUS QUO

## To Improve Contractor Collaboration and Project Delivery

This article was adapted from a press release from HeadLight

In the spring of 2018, the Virginia Asphalt Association (VAA), the trade association that represents the asphalt paving industry in the Commonwealth of Virginia, opened a dialogue with partners concerning innovation's role in helping industry and agency collaborate to streamline project delivery.

The Virginia Department of Transportation (VDOT) and VAA, in a shared commitment to the modernization of construction processes, partnered with Superior Paving Corp, an asphalt paving contractor in Gainesville, VA, to pilot an innovative and photo-driven approach to communicating construction material quality information. Enter HeadLight. This modern answer to a process used for decades could be used from the field in real-time. The initial effort showed improved communications and project management efficiencies and has proven to be a significant success for both the organizations involved and the traveling public.

The partnership aimed to overhaul information sharing between the agency and contractors on complex projects, resulting in a robust sharing of information between technicians in real-time. Also, the project information collected and shared could be easily viewed by any project stakeholder at any time by simply providing them access to HeadLight.

Superior Paving Corp identified a specific need within their organization to improve the process for reporting density in the field. HeadLight needed to not only improve their efficiencies but offer VDOT faster delivery and transparency into the work done on the job site. In turn, VDOT would be able to move more quickly to approve and close work items, which could result in faster payment to contractors. For the majority of contractor to DOT relationships, paper forms are still the most widely accepted method for reporting test results in the field. So why did VDOT and Superior Paving Corp support the need to overhaul the paper-based process?

When polled, here were a few of the responses from their teams.

- Paper forms can be lost.
- The handwriting on the forms can be illegible.
- It is labor-intensive to hand write up to six forms a day.
- Once accepted, paper forms still need to be filed or scanned into a system for record-keeping.
- Inspectors are not always on immediate site to answer questions (have to be in multiple places).
- Difficult to collaborate.
- From technician to acceptance can take up to a week.

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Our Asphalt Quality Technicians like this app because this allows all their work to be completed as they go and saves them from having to pull out an additional tool to help with the math portion of their paperwork. At the end of the day, VDOT has a digital copy of everything they need for a quick reference.

James Terrell, Quality Assurance Manager, Southern Region

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You can have multiple photos/video observations in real-time attached to your diary in just one or two clicks. It helps the manager to make a quick decision since he or she will have a clear idea of what is going on in the field without too much explanation.

**Engineer Tech III, Virginia Department of Transportation**

The goal of the pilot program was to examine the impact of introducing a more efficient workflow by digitizing the current process with a photo-driven approach to inspection and verification.

The initial efficiency measurement results were powerful. Using HeadLight saved at least two hours per day in paperwork, which was a huge benefit to both Superior Paving Corp and VDOT. Completed digital forms can be sent once to any number of recipients instead of being transferred multiple times or copied using the idea of “collect once; use many.” The pilot results to date show HeadLight improves accuracy in testing, record keeping, and efficiency when it comes to reporting asphalt density in the field.

**HeadLight in Action**

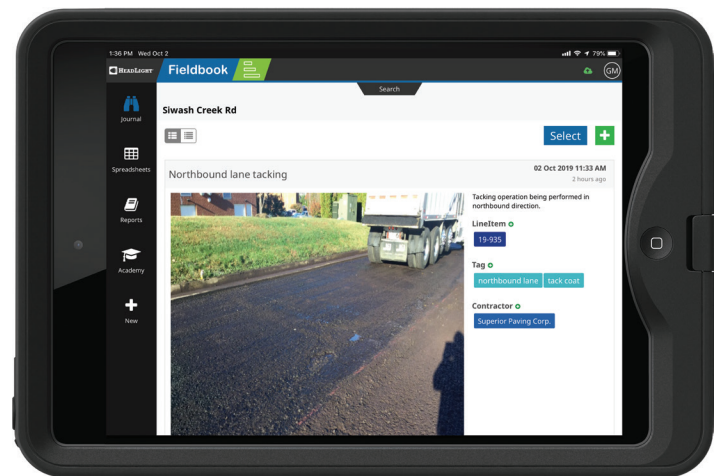
Imagine how many times an inspector or technician in the field might see bad road conditions on their project that may point to the reason for low-density readings? Or maybe they observe best practices that they would like to highlight and share with the team. What about a red flag in regards to safety? With HeadLight capturing photos and attaching them in the daily report, these observations become a natural part of the daily workflow.

Two of the many benefits of using HeadLight documented by the Superior Paving Corp and VDOT pilot program were the ability to capture work and surrounding conditions as they happened (Ex. 1) and having forms readily available in the same software (Ex. 2).

The two examples shown are actual job site observations that Superior Paving Corp can now easily include in their daily reports using HeadLight. Including a stamp of items like the weather and GPS locations when a picture is taken adds value to all observations shared with the team and has proven very helpful in communicating job site conditions to VDOT. The “capture once; use many” allows the agency project team and contractor team to use the same consistent information for their different respective purposes. For example, VDOT can make use of all the density profile information to spatially map the quality metric across their entire network of roadways for future preservation needs. Or the contractor can track the location of each truckload, where the material was delivered, and correlate that to the laydown density to ensure quality requirements are maintained throughout the job. This not only provides a huge efficiency gain when compared to having to dig through paper files but enables capabilities that were previously impossible in a paper-based world.

HeadLight provides partners with a streamlined system to communicate site conditions and receive owner sign off and approval much faster than with previous paper-based processes. The communication trail between the organizations is automatically archived and easily searchable if needed in the future. These are game-changing

capabilities that enhance the partnership between the Owner and Contractor by supporting the shared goal of risk reduction and on-time project delivery to the traveling public.



Example 1. Capturing the proper tacking and the condition of the existing milled surface.

PROJECT					
Project	Item Number	Date			
PM90-076-F19, N501	166030	09/12/2019			
LOCATION					
Route & Direction	Lane(s)	County			
English st	Left	Prince William			
Lot Number	Application Rate (lbs/sy)	From (Station, MP, Int., etc)			
2	165	English st			
To (Station, MP Int., etc)	Brookmeade dr				
PRODUCTION					
Asphalt Mix Type	Mix Job Number	Model Number			
SM-9.5A	6041-2019-24	4640B			
Serial Number	Calibration Date	Depth Setting			
2448	01/28/2019	1.25			
Roller Type 1	Roller Type 2	Roller Type 3			
CC2200	CB34B				
ROLLER PATTERN					
Pass Number 4V			Pass Number 6V		
Density - Site 1	Density - Site 2	Density - Site 3	Density - Site 1	Density - Site 2	Density - Site 3
149.6	148.3	149.2	151.4	151.3	152.3
Density - Average			Density - Average		
149.0			151.7		
Pass Number 7S			Pass Number 8S		
Density - Site 1	Density - Site 2	Density - Site 3	Density - Site 1	Density - Site 2	Density - Site 3
152	151.8	152.6	152.6	153.2	154.3
Density - Average			Density - Average		
152.1			153.4		

Example 2. TL-56 and TL-57 incorporated into HeadLight.