

Virginia Information Technologies Agency



Virginia Department of Transportation Electronic Bulletin Board (EBB) Project

**CATEGORY: Information Communication
Technology (ICT) Innovation**

**Initiation Date: December 2013
Completion Date: June 2014**

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Executive Summary

How do you connect with more than 3,000 field staff members who do not have on-the-job computer access? The Virginia Department of Transportation (VDOT) initiated an electronic bulletin board (EBB) project to build a more informed, engaged and satisfied employee base.

VDOT's solution ensures that statewide, district and regional information is provided to field staff. More than 270 EBB systems were deployed to approximately 250 field locations. They provide employees with an easy-to-use interactive screen displaying important announcements, information, traffic cameras, weather reports, access to job-related online tools, and on-demand access to safety and training videos. In addition, agency leadership has the ability to address all employees through EBB video capabilities.

Best practices used included targeting users to assess needs and requirements, engaging multiple vendors to demonstrate solutions and deploying proof of concepts.

The EBB initiative uses innovative technology to better serve the field, delivering key benefit information, agency announcements, emergency response information, and training and safety communications. It provides access to VDOT's traffic cameras and weather information, providing situational awareness that is critical in emergency and inclement weather situations. The initiative has a widespread positive impact on VDOT's employees and the agency's ability to communicate and deliver services.

A cost savings of \$900,000 per year is estimated as a result of:

- Reduced travel time and travel expenses to residency and district offices for training
- Elimination of time and expenses associated with handling hard copy administrative materials

Intangible benefits include improved employee satisfaction and operational practices through increased and enhanced agency communications, safety-related messages and specific operational training.

A residency engineer recently shared that "EBB is the first technology project that focuses on field workers' needs."

Description of the Business Problem

VDOT employs approximately 3,000 field staff whose primary function is to maintain Virginia's large roadway and equipment network. They work in 250 area headquarter (AHQ) facilities statewide. These workers do not have access to computers so they do not receive important information that VDOT's remaining 4,500 employees receive electronically.

In the summer of 2012, VDOT's commissioner challenged the agency to address 10 business improvement initiatives, including improving communication to VDOT's field workers. Field workers relied on information trickling from the top down through their supervisors, which usually involved an announcement during the morning meeting or a printout placed on a table. Field staff felt disconnected and often missed important information.

How could VDOT empower field workers with agency information and resources that would use the best tools available to enhance and aid in their job performance and satisfaction? VDOT leadership organized a team from information technology, communications, human resources, and district and field staff to develop and implement a communications tool for field workers. The project goals were to:

- Improve internal communications to VDOT AHQ staff in all locations with consistent and relevant messaging, including an on-demand access to the full suite of VDOT training videos
- Enhance employee connections and satisfaction
- Heighten situational awareness during emergency responses

Solution

Using best business practices, the VDOT team worked with a targeted group of field employees to assess needs and requirements. The team engaged with multiple vendors to demonstrate solutions and deploy proof of concepts at 10 field sites. One of the most important recommendations was that interactive screens were needed to allow users to select the information they wanted to view.

Electronic bulletin boards (EBBs) or digital signage is widespread in the private sector, most notably in transportation venues to provide arrival and departure information. VDOT's solution is unique because it distributes content management to its 10 district communications groups while standardizing common templates ensuring that state-wide, district and regional information is provided to the field staff. In addition, VDOT uses the EBB platform to share agency-wide announcements and notices.

The EBB units comprise the following hardware:

- A 46 inch LED 1920x1080 wall-mounted touchscreen monitor

- Intel Nuc i3 with 60GB SS hard drive, 4GB RAM and Win7 mounted on the back of the monitor
- All cables connected to the systems
- Surge protector

The EBB content services are hosted and managed by the implementation vendor. This offers a simple connection the Internet to offer content and video on the EBB units.

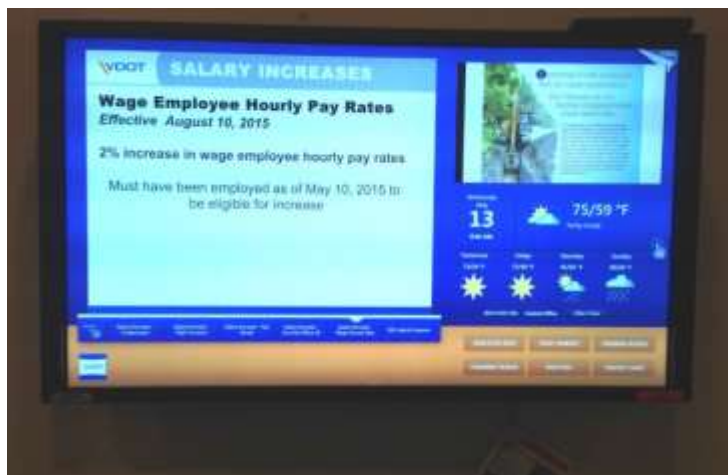
All facilities required a readiness assessment and the associated services to ensure mounting, power and network access are available. VDOT worked with the Virginia Information Technologies Agency (VITA) to develop a solution that allows use of the Commonwealth of Virginia (COV) network to access the Internet thus segregating the traffic on a separate VLAN. This was critical to ensure adequate bandwidth to all sites, some of which are remote.

The EBB project was delivered ahead of schedule and under budget. Statewide deployment activities were delivered in seven months. Innovative solutions were used to make schedule. The cabling and networking installation was grueling and complicated with workers using warming huts during bad weather. The EBB project manager drove a total of 15,000 miles to install EBB at all 250 sites, ensuring success and adoption by training the AHQ superintendent. Executive sponsorship with a clear vision and strong leadership was essential to success of the project

Using the Technology

The main screen includes announcements such as benefits information, video messages, weather and sub-content buttons. The sub-content buttons include:

- Employee information – Job postings, pay calendar, important contacts
- [VDOT website](#) – Access to the external website
- [Virginia Roads](#) – Access to the Virginia Roads site
- Training videos – Approximately 70 training and safety videos available on-demand
- Weather – Meridian, local weather, National Oceanic and Atmospheric Administration
- Traffic Cameras – [511Virginia.org](#) site and media portal



Significance of the Project

The EBB systems have become ubiquitous at VDOT, providing a wide range of information, such as job opportunities and agency news, and access to online tools. Training videos are provided online significantly reducing travel. Paper communications are no longer needed.

VDOT delivered an innovative solution to provide information and tools to staff without purchasing computers and assigning system access to each field worker. Providing the right tool for the right function lowered potential costs and provided a better solution.

The EBB implementation began in December 2013 and completed ahead of schedule in June 2014. Many installations were performed with inclement weather, including a heavy-than-normal snowfall where the VDOT crews ensured the roads were passable and IT staff installed a unit.

The availability of traffic cameras via the EBB system “opened eyes” and is perceived as an exceptional tool providing situational awareness. Other digital tools, such as Meridian weather and Virginia Roads (Virginia’s GIS mapping portal), help field workers maximize their job performance and satisfaction.

The commissioner’s town hall meetings and statewide announcements are recorded and streamed to EBBs statewide allowing for inclusivity to agency business decisions and announcements. Availability of up-to-date safety videos promotes the [commissioner’s objectives](#) of making safety “number one.” In addition, agency leadership has the ability to address all employees through EBB video capabilities.

The project meets several of Virginia’s Governor Terry McAuliffe [enterprise government priorities](#) for 2014:

- Explore and pursue innovative strategies to increase government efficiency or to reduce government costs for needed services.
- Manage public resources efficiently and effectively in challenging economic conditions.

The EBB project also aligns with the technology trend of consolidation and optimization and several initiatives cited in the [Commonwealth of Virginia Strategic Plan for IT: 2012-2014](#), including information sharing, improved workforce productivity, education and training.

Benefits

Surveys were administered to field staff before and after the EBB pilot program. Results show that the EBB program increased the following areas of communication:

- District-wide plans, progress and announcements
- Agency-wide plans, progress and announcements
- Timely and appropriate safety information
- Availability of training information, opportunities and job openings
- Announcements of activities and special events
- Local, residency-level information
- Employee satisfaction with the access to information

A cost savings of \$900,000 per year is estimated as a result of:

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Intangible benefits include improved employee satisfaction and operational practices through increased and enhanced agency communications, safety-related messages and specific operational training.

A field staff supervisor in the Lynchburg district said that he believes “the EBBs have led to a boost in morale. EBBs help fill the gap left behind when the human resources and business staff were removed from the area headquarters and residencies several years ago.”

The EBB initiative has had a major impact to VDOT’s 3,000 field employees providing staff with information, resources and tools to improve employee engagement and delivery of service.