



# VTrans Pilots Electronic Ticketing Technology on Paving Projects

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## Introduction

VTrans has been working alongside Industry, FHWA and the National e-Ticketing (Electronic Ticketing) Task Force to implement e-Ticketing. e-Ticketing is a paperless process for documenting materials and is accessible in real-time via mobile devices. This will increase project safety, provide electronic document management and enhance the value of load tickets for all users. e-Ticketing is the final e-Construction initiative allowing resident engineers to fully submit final project records electronically. e-Ticketing has attracted the most interest of any Everyday Counts innovation to date.

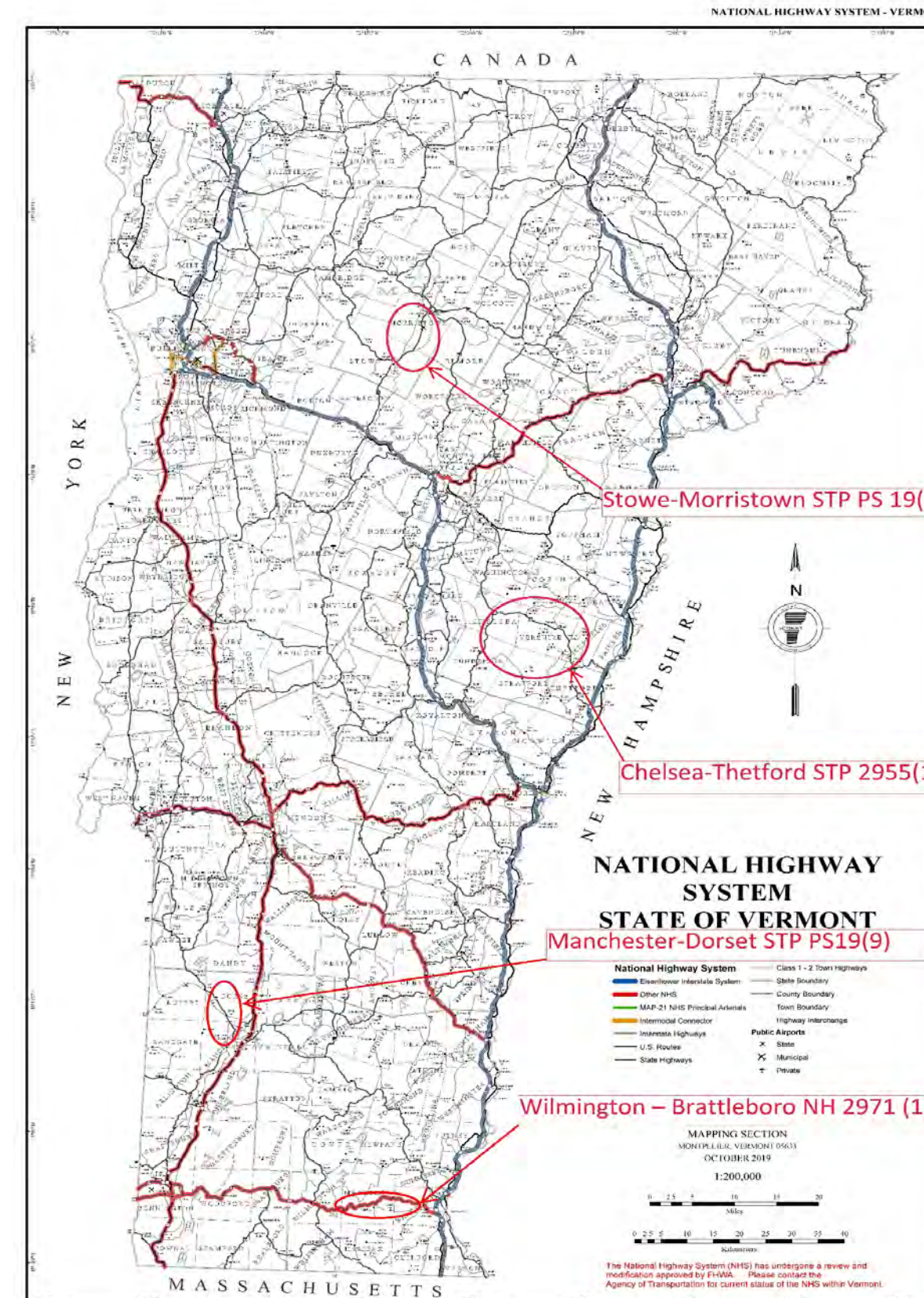


Figure 1. Pilot Locations.

## Background

Traditionally, hot mix asphalt (HMA) delivery has been documented and quantified by paper tickets with each truck load of HMA. The first pilot of e-Ticketing was in 2015 and the technology was slowly adopted. In the Spring of 2020, to limit the spread of COVID-19, VTrans required electronic transmission of tickets by either simple tickets or e-Tickets. Simple tickets are delivered by a real-time email system or manually and includes read-only access to the producer's truck scale ticketing system. e-Ticketing is improving workflow by allowing field staff to document the material descriptions from their handheld devices at a safe distance from equipment and oncoming traffic.

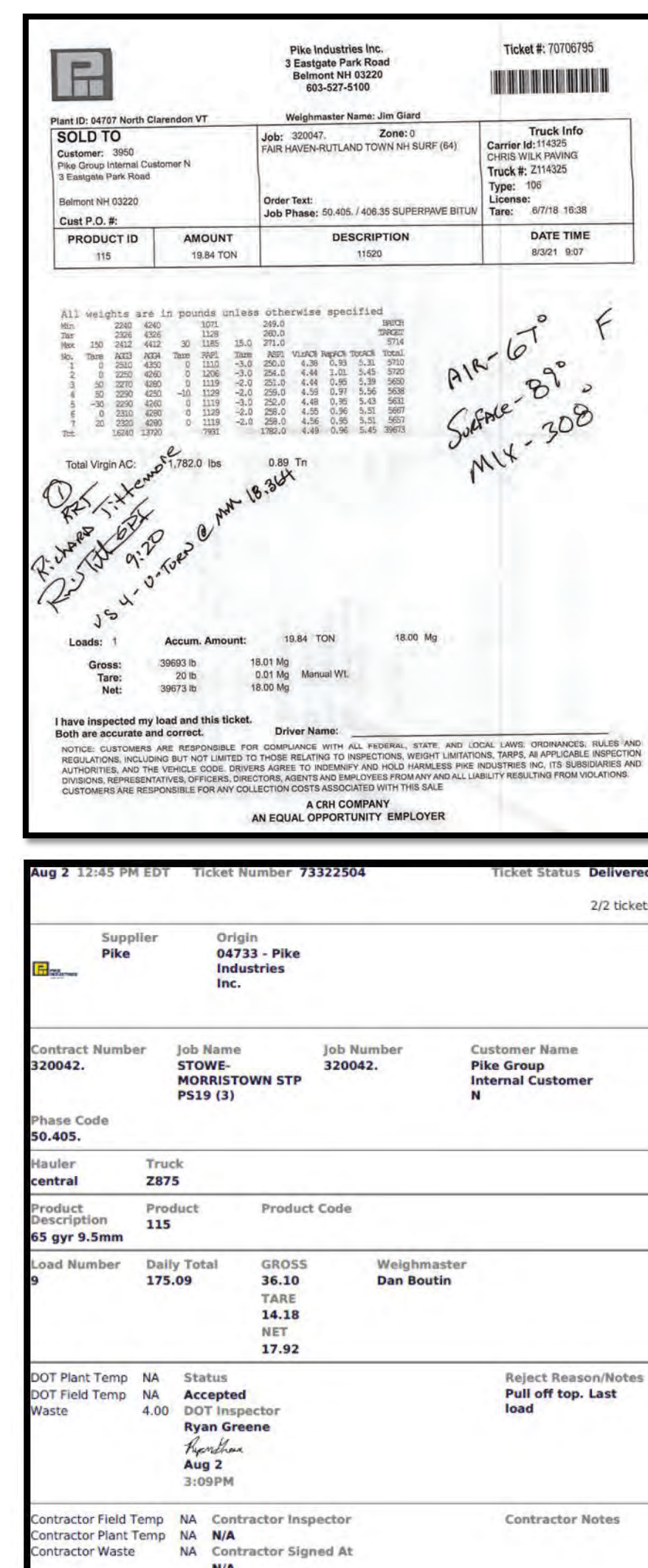


Figure 2. Paper Ticket (Top) vs. e-Ticket (Bottom).

## Results

VTrans has piloted e-Ticketing on two paving contracts and is requiring e-Ticketing in two large scale contracts for 2021-2023. Three HMA producers have integrated e-Ticketing into their truck scale systems for VTrans projects. To increase interest of e-Ticketing, contractors and vendors have offered to pilot e-Ticketing at no cost. Field staff have experienced a wide variety of outcomes while using e-Ticketing, including improved awareness of material status and time savings in documenting material notes and record keeping. Complications have been experienced in low connectivity areas and field staff resorted to paper tickets. An offline app feature for ticket transfers and alternative connectivity options are being explored.

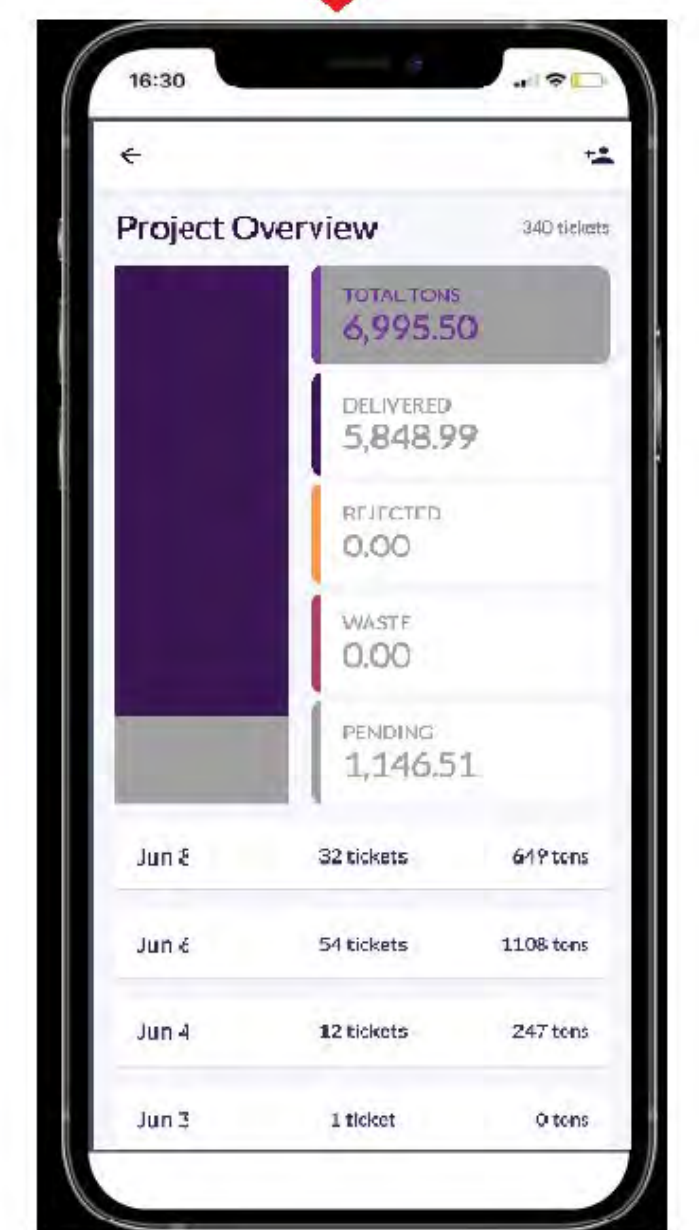


Figure 3. Enhanced Workflow

## Potential Benefits

The goal of VTrans is to institutionalize e-Ticketing by 2023, with the assistance of FHWA and the National e-Ticketing Task Force. Potential benefits for VTrans and contractors include enhanced material tracking and document management, cost savings from fleet management and improved quality control through a balanced and continuous paving operation.

## Acknowledgments

Construction field staff, FHWA, contractors, vendors and the National e-Ticketing Task Force for your e-Ticketing feedback and support.

## References

FHWA EDC-6 e-Ticketing and Digital As-Builts:

[https://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_6/eticketing.cfm](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_6/eticketing.cfm)

NCHRP Synthesis 545: Electronic Ticketing of Materials for Construction Management (2020):

<http://www.trb.org/Main/Blurbs/180798.aspx>