HMA e-Ticketing
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Hunter Golson, P.E.
ALDOT Construction Bureau
e-Construction Engineer

Charlie Cook
Midsouth Paving, Inc.
Area Manager

HMA e-Tickets
- Electronic system to monitor, track, and report loads of HMA
- Uses GPS fleet management system
- Software available to Engineer for electronic ticket delivery and management
- Replaces paper asphalt tickets

e-Construction
- ALDOT e-Construction Initiative
- ALDOT’s goal is paperless construction
- Data vs paper
- Quality, Safety, and Efficiency

Why?
- Quality
  - More information available
  - Real time material and quantity verification
  - Real time delivery tracking
  - Access at all levels

Why?
- Efficiency
  - ALDOT must do more with less
  - Construction volume is up and inspector numbers are down
  - Advanced review of delivery tickets
  - Expedite contractor payment

Why?
- Safety
  - Goal is to reduce project staff around delivery vehicles
  - According to FHWA, “Nearly half of roadway worker fatalities are caused when workers are run over or backed over by vehicles or mobile equipment.”
  - e-Tickets remove the traditional “ticket taker”
Safety

ALDOT’s safety focus this year:

▪ Introduction of ARTBA’s Roadway Safety Plus training material in each of ALDOT’s ten Areas
▪ Emphasis on Worker Visibility

Why?

View from the ground

View from the driver’s seat

Why now?

▪ Equipment
  ▪ Inspectors are now equipped with tablets
  ▪ 272 iPads

▪ Fleet Management Software
  ▪ Contractors beginning to manage delivery vehicles regardless of pilot program
  ▪ Utilizing existing technology

How?

▪ IOWA DOT was the pioneer for e-Ticketing
  ▪ Only a few states are piloting (IA, PA, KY, FL)
  ▪ Many more are planning to pilot

▪ Special Provisions were created by ALDOT

▪ Pilot projects administered by Change Order
  ▪ Projects chosen based on location, description, etc...
Pilot Projects

- STPAA-HSIP-0245(501)
  - Butler County
  - 2.899 Miles of Safety Widening, Planing, Resurfacing, Bridge Rail Retrofit, and Traffic Stripe on SR-245
  - Midsouth Paving, Inc.

- STPNU-HSIP-0052(514)
  - Geneva County
  - 8.600 Miles of Safety Widening, Planing, Resurfacing, and Traffic Stripe on SR-52
  - Wiregrass Construction Company, Inc.

- NH-HSIP-0009(552)
  - Crenshaw County
  - 10.084 Miles of Safety Widening, Planing, Resurfacing, and Traffic Stripe on SR-9 (US-331)
  - Wiregrass Construction Company, Inc.

- IM-I065(489)
  - Conecuh County
  - 11.445 Miles of Planing, Resurfacing, and Traffic Stripe on I-65
  - Midsouth Paving, Inc.

Traditional Process

- HMA plant prints paper ticket (multiple copies)
- ALDOT copy carried to inspector by driver
- HMA driver hands CE&I inspector ticket
- Inspector records delivery temperature and signs each ticket
- Inspector calculates daily totals by hand
- Daily totals used for payment

E-Ticket Process

- Delivery vehicles monitored via GPS
- HMA tickets are generated electronically
- Tickets available to inspectors via website or app
- Tickets signed and temperature entered via iPad
- Daily totals automatically calculated

Tickets
Final Product

• Pilots for smaller contractors
• Pilots in other areas of the State
• More inspectors
• HMA placement rate calculations

Issues

• Resistance to new process
• Limited connectivity in rural areas
• Multiple contracts
• Multiple companies

Next Steps

• Resistance to new process
• Limited connectivity in rural areas
• Multiple contracts
• Multiple companies

Equipment

• GPS Units Mounted In Each Truck And Paver

GPS Units

• Contractor Owned Trucks Versus Leased / Owner – Operator Trucks
GPS Units

- Geozone Sets the location of asphalt plant, loading silos, project limits, paver, etc...
  - Static or dynamic
  - Can be adjusted as needed
  - Utilized in conjunction with the GPS units
  - Used to verify load and dump times

Geozones

Deliverables

415.03 Construction.
(a) Construction Requirements.
Contractor shall install and operate equipment in accordance with the manufacturer's specifications. Contractor shall also verify the GPS is working within the requirements of this Developmental Specification.
(b) Data Deliverables.
Contractor shall provide to the Engineer a means in which to gather report summaries by way of KES apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during paving operations.
Final Product

- Screen Refresh Issue / App Issues
- Trucks Number Issues
- Net Weight vs Total Weight
- Updates happen frequently.
- Plant Computer Issues.
- Unit per truck per paving company, no way to use the same equipment. $
- Mindsets

Questions?