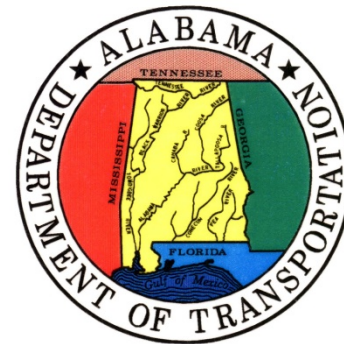


e-Construction Update

April 11, 2019

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



> e-Construction

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

▶ ALDOT's e-Construction Initiatives

- Mobile devices
- e-Plans
- e-Forms
- e-Signatures
- Document management
- Document retention
- e-Tickets
- Updating construction manual
- Updating standard specifications
- System coordination
- Bar codes / RFID
- 3D modeling
- UAV usage for inspection
- Integrating contractors

- Materials
 - Materials section went live May 2018
 - SiteManager turned off
- Construction
 - Enhancements
 - Bug fixes

> CAMMS

- Coming Soon
 - Attachments
 - Mobile App
 - Admin Reports
 - Additional labs
 - Automate BMT-38s

> CAMMS

- Local pilot program for local projects
 - Small percentage of projects
 - County staff or consultants
- Reduces burden on Local Transportation
- Positive feedback to date

➤ Tablets

- 300 iPads statewide
- Otterbox cases with great success
- Mainly used for CAMMS
- Access to eMail, Calendar, FaceTime, Office, etc...
- Enabled work on other initiatives

➤ Electronic Plans

- Pilot projects for fully electronic plans
- Generated directly from Microstation
- Many options for initiatives
 - As-built plans
 - Electronic plan review
 - Document Management

➤ Electronic Plans

- Benefits
 - Much smaller file size
 - Vector plans with OCR
 - Ease of access
- Challenges
 - Change in work flow
 - Inter departmental cooperation
 - User buy in

➤ Electronic Forms

- Updated versions
 - Old forms in Adobe LifeCycle updated
 - iPad friendly
 - Additional calculation fields
 - Adobe signature block

➤ Document Management

- Submittal Exchange Pilot
- Peer exchanges with other State DOTs
- Multiple pilot projects planned this year
 - Procore
 - PlanGrid
 - ProjectWise
 - BlueBeam
 - DocExpress
 - Etc...

➤ Construction Manual

- STIC Grant to update manual
 - Hiring of consultant firm
 - Fully electronic format
 - Links out to forms and pages

➤ 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

> 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

6' tall worker

5' tall worker

View from the ground





View from the driver's seat



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

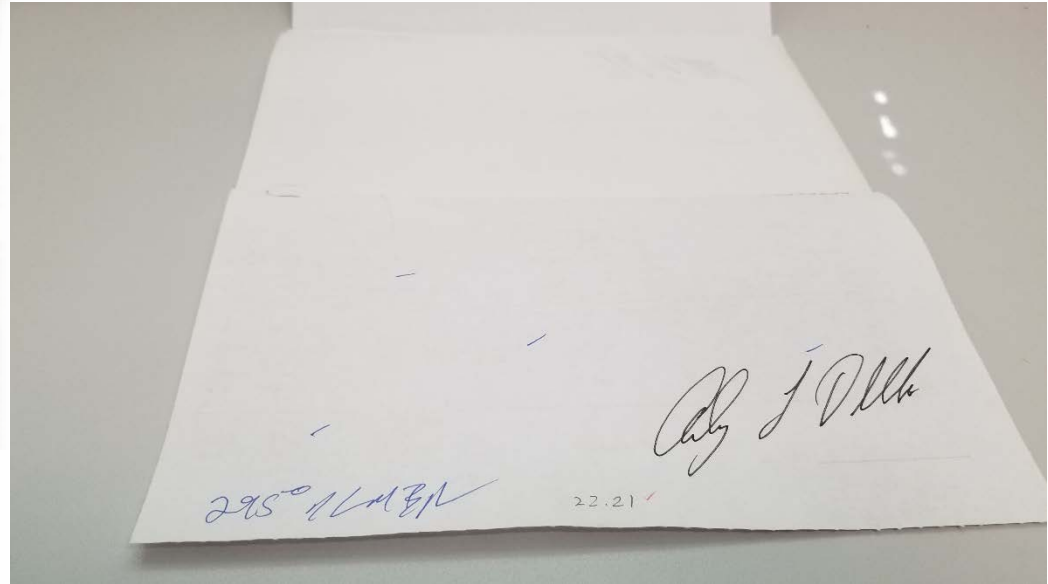
> How?

- 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...

➤ 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

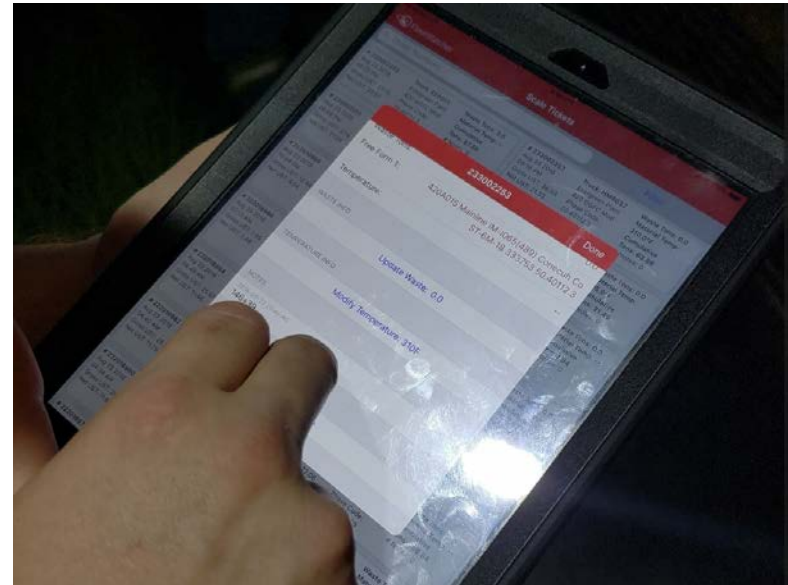
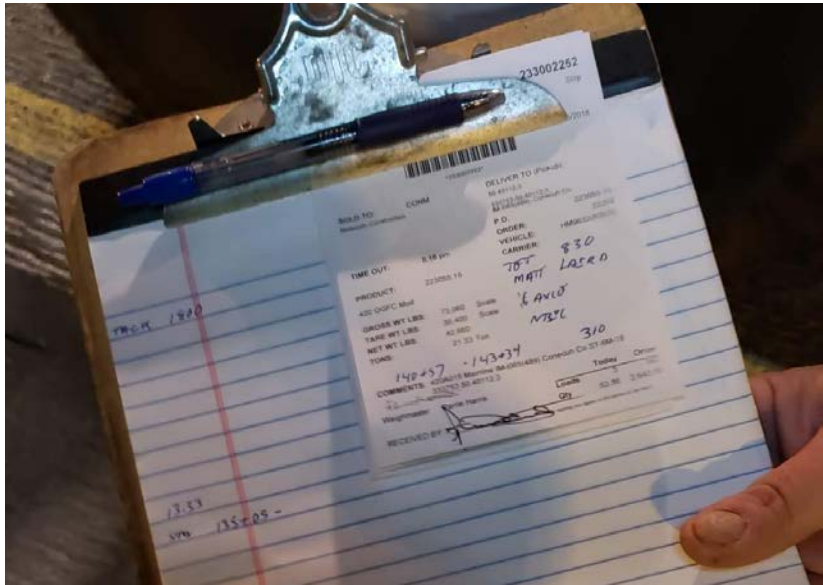
▶ Traditional Process



➤ 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



Tickets

Verizon LTE
11:01 AM
100%

FleetWatcher
Scale Tickets

Ticket Numbers
Filter

# 233002304 Aug 26 2018 08:22 PM Gross UST: 37.58 Net UST: 21.22	Truck: HM7366 Evergreen Plant 420 OGFC Mod Phase Code: 50.40112.3	Waste Tons: 0.0 Material Temp: 295.0°F Cumulative Tons: 61.85 # Notes: 0
# 233002307 Aug 26 2018 08:58 PM Gross UST: 36.07 Net UST: 19.76	Truck: NTC343 Evergreen Plant 420 OGFC Mod Phase Code: 50.40112.3	Waste Tons: 0.0 Material Temp: 295.0°F Cumulative Tons: 128.16 # Notes: 0
# 233002310 Aug 26 2018 09:24 PM Gross UST: 39.34 Net UST: 22.98	Truck: HM7366 Evergreen Plant 420 OGFC Mod Phase Code: 50.40112.3	Waste Tons: 0.0 Material Temp: -- Cumulative Tons: 36.58 # Notes: 0
# 222017044 Aug 26 2018 09:46 PM Gross UST: 39.67 Net UST: 23.6	Truck: WMT036 Mt. Meigs Plant SMA 19mm Non Skid Rap Mod Phase Code: 50.40112.29	Waste Tons: 0.0 Material Temp: -- Cumulative Tons: 96.64 # Notes: 0
# 222017047 Aug 26 2018 10:43 PM Gross UST: 26.31 Net UST: 11.83	Truck: JDT001 Mt. Meigs Plant SMA 19mm Non Skid Rap Mod Phase Code: 50.40112.29	Waste Tons: 0.0 Material Temp: -- Cumulative Tons: 153.73 # Notes: 0

233002304

Done

Temperature: 320.0°F

WASTE INFO

Update Waste: 0.0

TEMPERATURE INFO

Add Temperature

NOTES

2018-08-26 21:43:12 James "Matt" Laird
100% waste on truck. shuttle buggy dumped out of the bottom door

2018-08-26 20:47:16 James "Matt" Laird
305+71

ADD NOTE

Add Note

► Equipment

415.02 Equipment.

No fewer than 30 days prior to HMA placement activities, the Contractor shall submit to the Engineer for approval a GPS Fleet Management System supplier that can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verifications, and data management and processing as needed during the Project to maintain equipment.

Contractor shall provide operator settings, user manuals, and required viewing/export software for review, and ensure the equipment will meet the following:

The Fleet Management system shall include a device that is capable of GPS tracking of vehicles is installed on all dump trucks, belly dumps, side-load dumps, pavers, materials transfer vehicles, or any other vehicle used, to incorporate HMA in the project. Department personnel shall have the ability to access Real-Time monitoring through the use of a state-furnished mobile device such as an iPad, smartphone, etc.

The Fleet Management system shall be fully integrated with the Contractor's Load Read-Out scale system at the HMA plant site.

The Fleet Management system shall have the ability to measure and track vehicles and their contents continuously from the plant site to the project site. The system shall have offline capabilities due to loss of power or GPS connectivity. To be considered continuous, no two data points shall be more than 60 seconds apart unless the vehicle is stopped. Stop times shall be recorded.

HMA plant sites shall have a reliable, stable internet connection.

GPS Units

- GPS Units Mounted In Each Truck And Paver



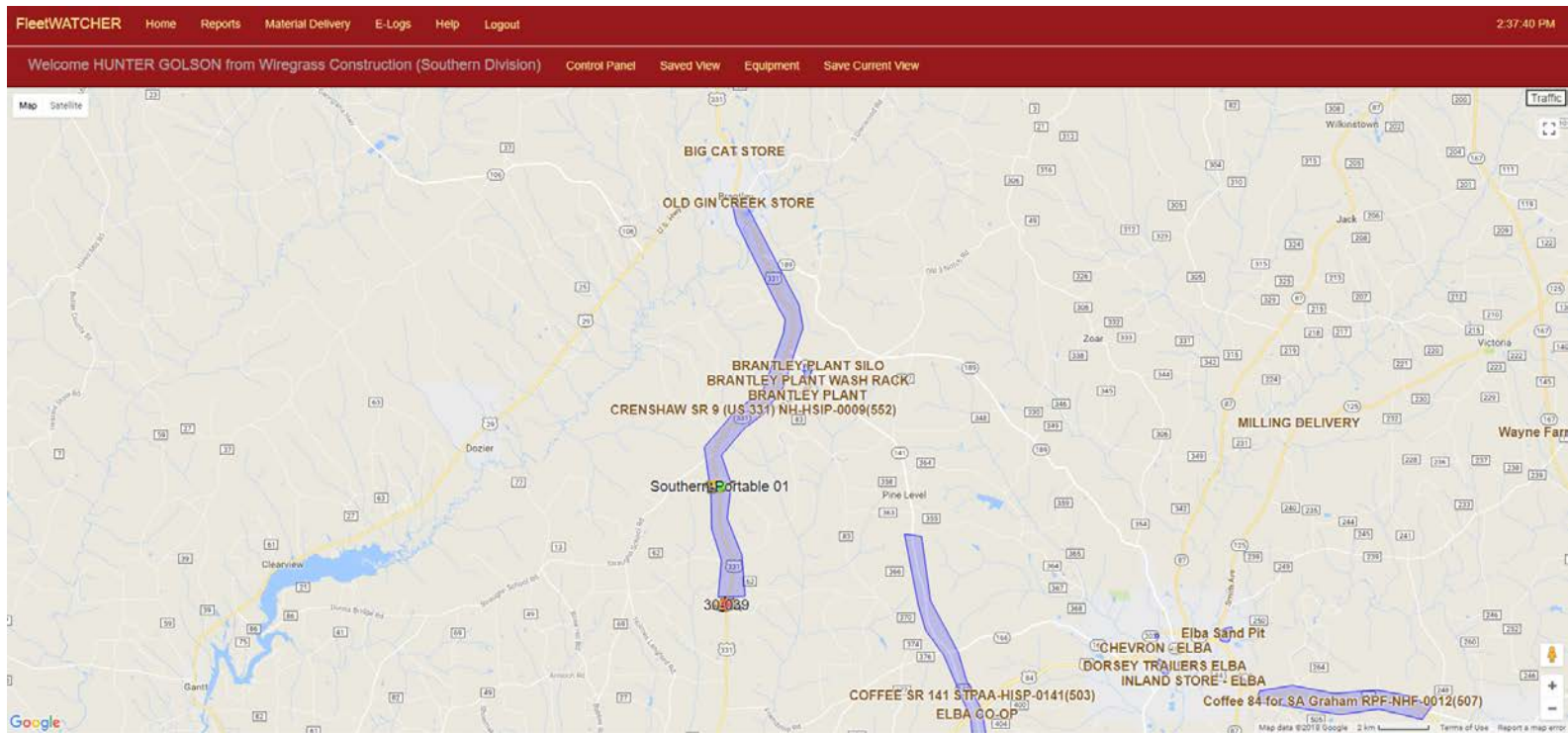
GPS Units



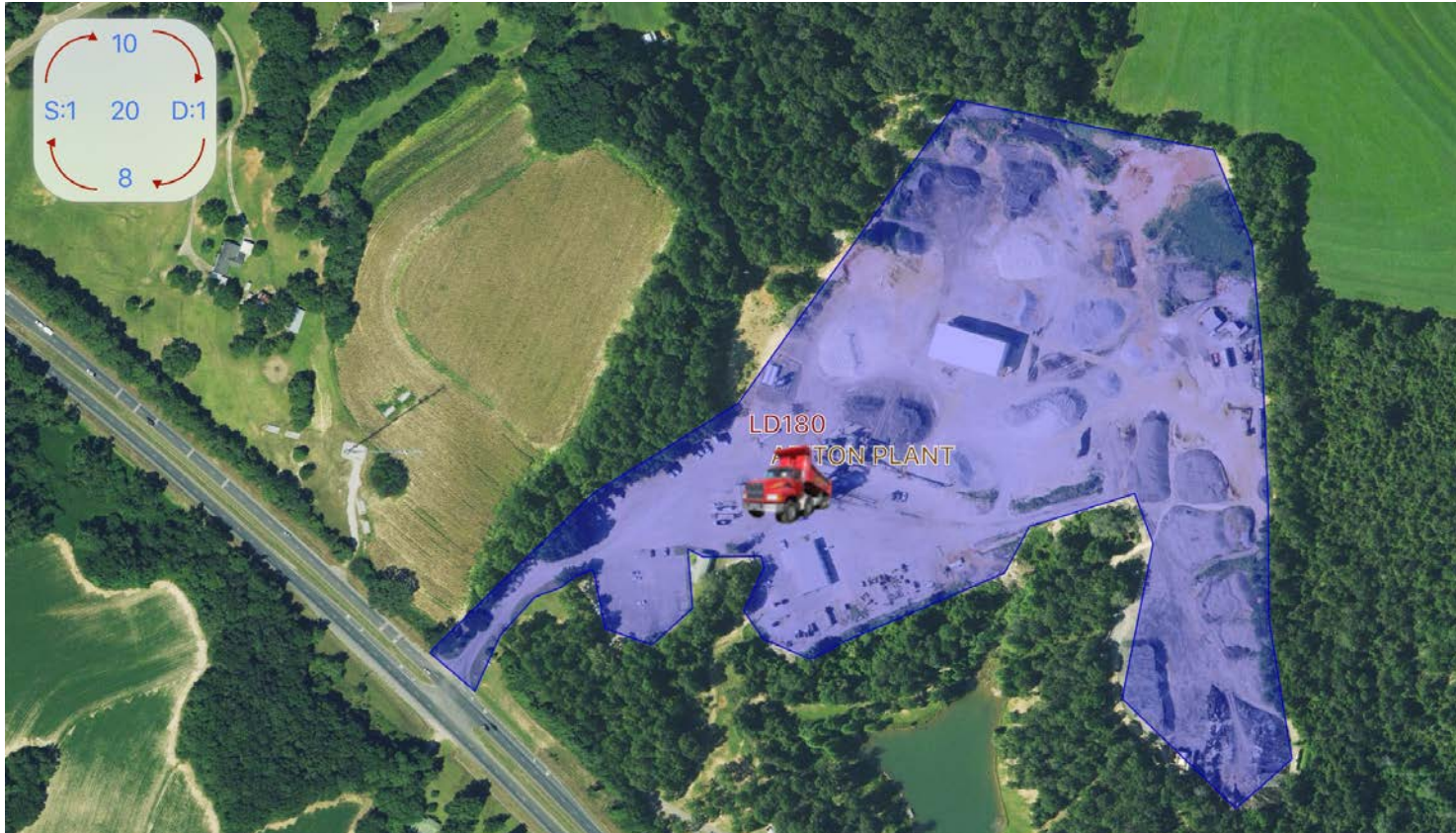
> Geozones

- 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



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.

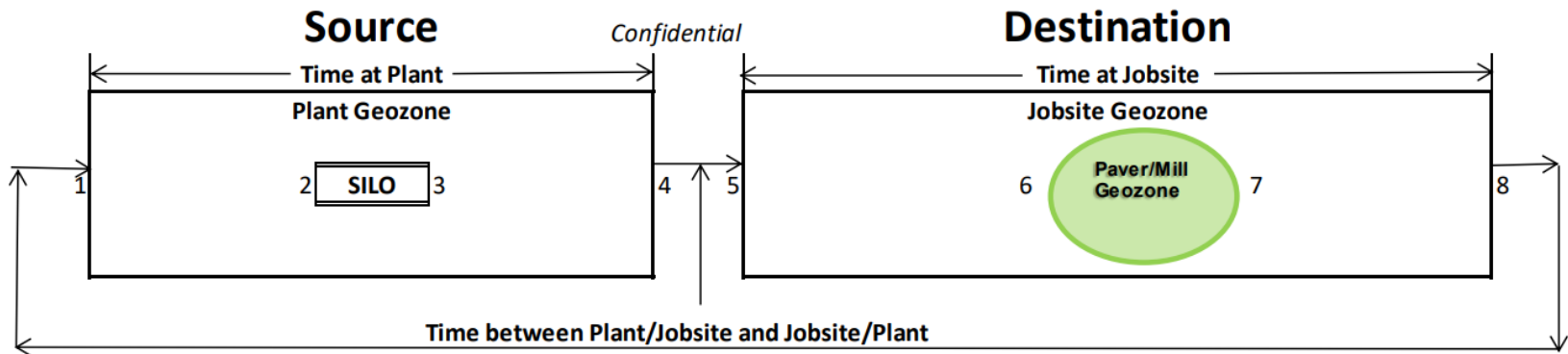
(b) Data Deliverables.

Contractor shall provide to the Engineer a means in which to gather report summaries by way of iOS apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during paving operations.

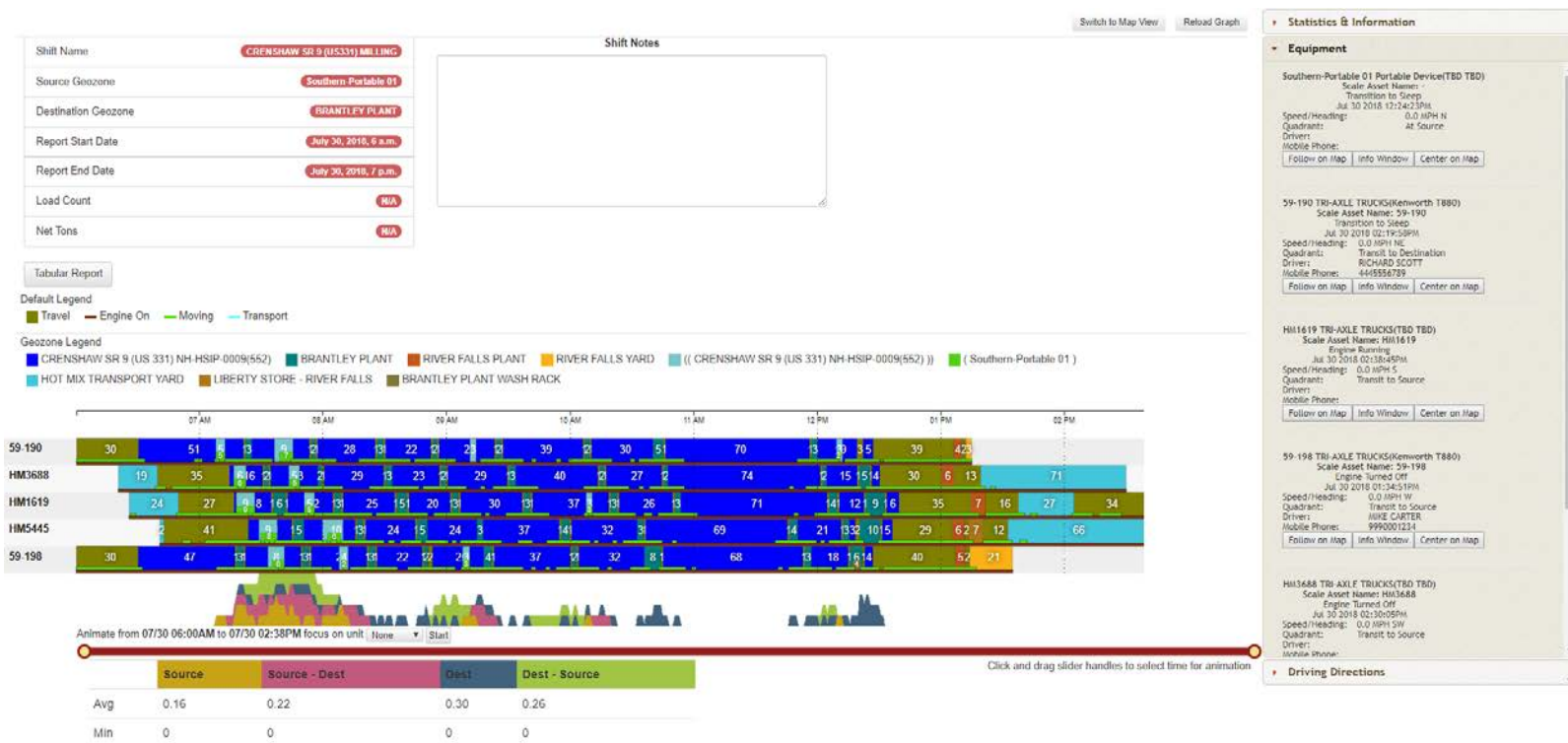
➤ LCA Calculations

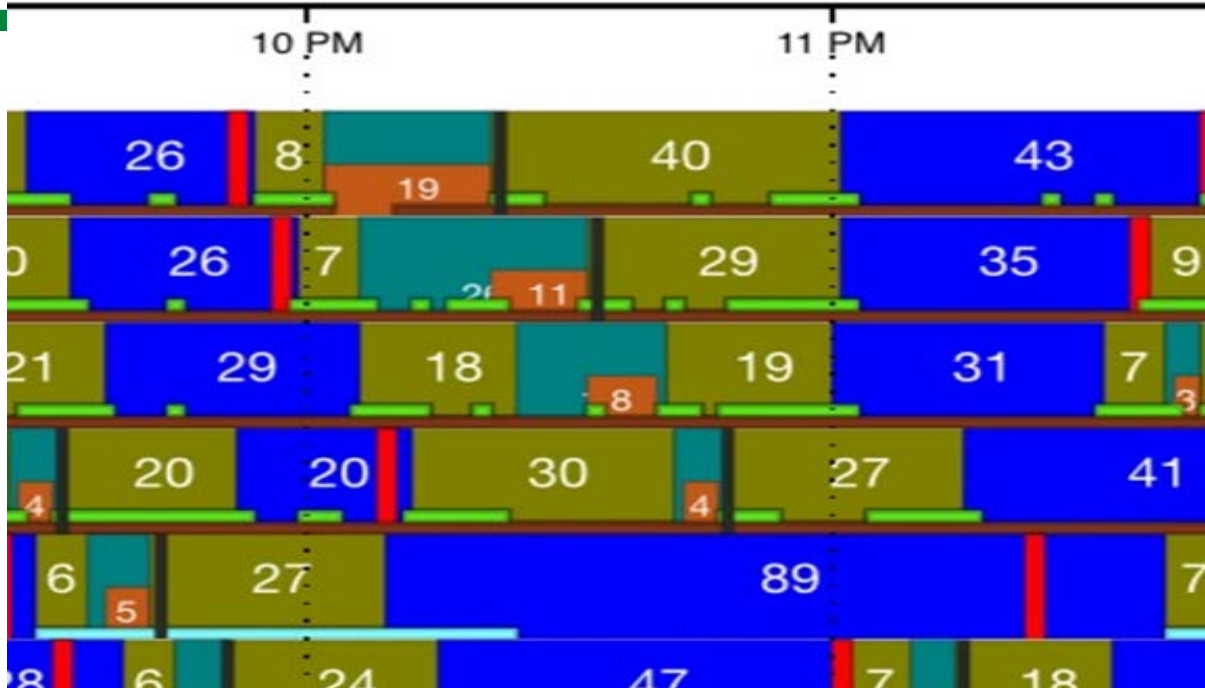
Fleetwatcher Load Cycle Analysis - Materials Delivery

Data Collection Points Diagram



LCA Graph





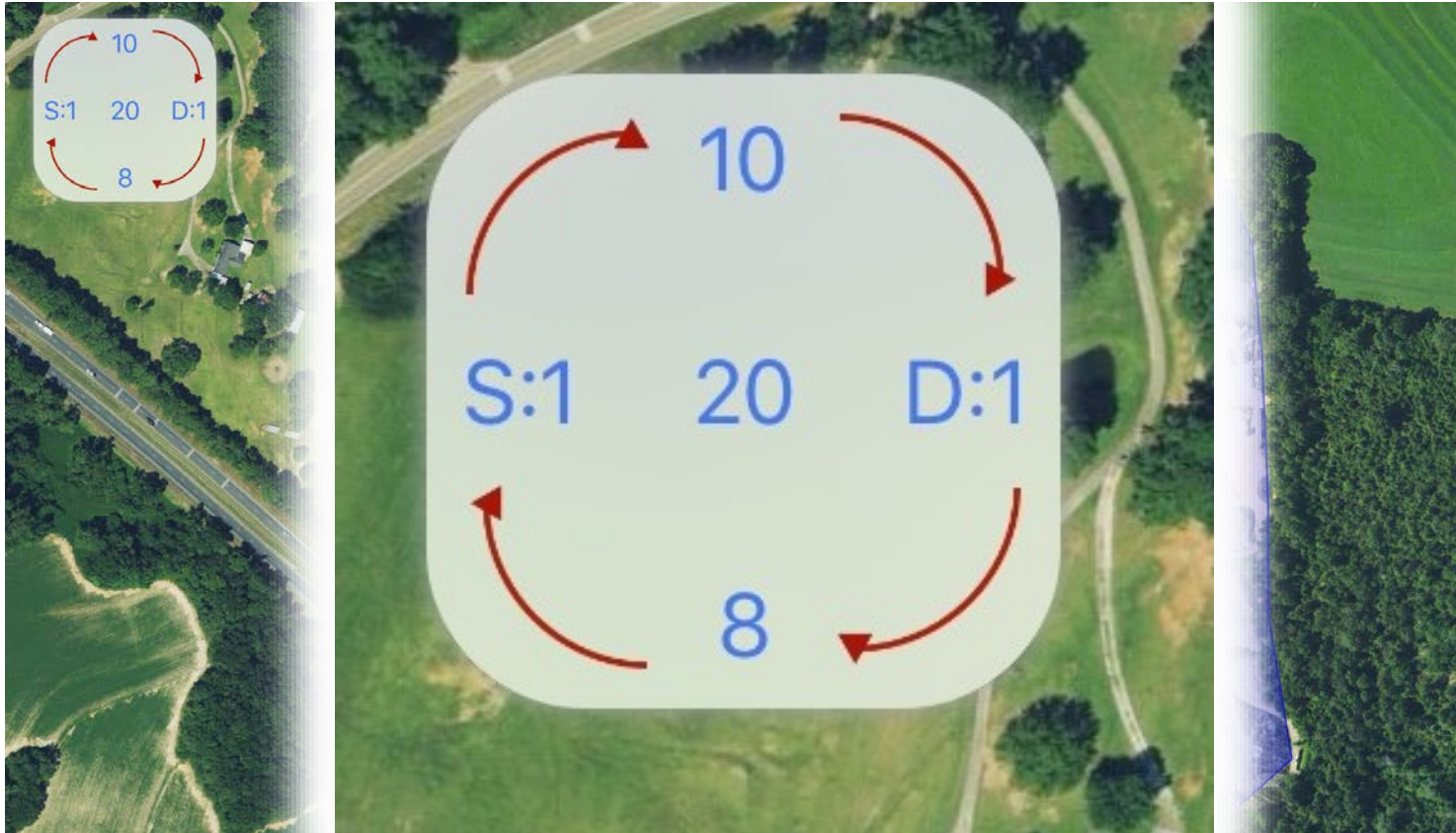
Default Legend



Geozone Legend



▶ Load Cycle



Tickets

< FleetWatcher

Scale Tickets

Q Ticket Numbers

Filter (On)

7550491
Jul 26 2018
07:02 AM
Gross UST: 40.74
Net UST: 25.91
Truck: HM1619
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
300.0°F
Cumulative
Tons: 25.91
Notes: 0

7550492
Jul 26 2018
07:05 AM
Gross UST: 40.69
Net UST: 25.87
Truck: HM3688
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
300.0°F
Cumulative
Tons: 51.78
Notes: 0

7550493
Jul 26 2018
07:12 AM
Gross UST: 40.91
Net UST: 25.91
Truck: HM5445
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
300.0°F
Cumulative
Tons: 77.69
Notes: 0

7550494
Jul 26 2018
07:16 AM
Gross UST: 40.92
Net UST: 26.11
Truck: HM3685
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 103.8
Notes: 0

7550495
Jul 26 2018
07:27 AM
Gross UST: 40.96
Net UST: 26.13
Truck: HM1619
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 129.93
Notes: 0

7550496
Jul 26 2018
07:46 AM
Gross UST: 40.96
Net UST: 25.98
Truck: HM5445
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 155.91
Notes: 0

7550497
Jul 26 2018
07:48 AM
Gross UST: 40.96
Net UST: 26.15
Truck: HM3688
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 182.06
Notes: 0

7550498
Jul 26 2018
07:54 AM
Gross UST: 41.05
Net UST: 26.24
Truck: HM3685
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 208.3
Notes: 0

7550500
Jul 26 2018
08:14 AM
Gross UST: 40.98
Net UST: 25.99
Truck: HM5445
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 260.33
Notes: 0

7550501
Jul 26 2018
08:18 AM
Gross UST: 40.77
Net UST: 25.96
Truck: HM3688
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
305.0°F
Cumulative
Tons: 286.29
Notes: 0

7550502
Jul 26 2018
08:21 AM
Gross UST: 40.76
Net UST: 25.97
Truck: HM3685
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
300.0°F
Cumulative
Tons: 312.26
Notes: 0

7550503
Jul 26 2018
08:40 AM
Gross UST: 40.91
Net UST: 26.09
Truck: HM1619
BRANTLEY
PLANT
424 SP 3/4" C/
D WS
Phase Code: --
Waste Tons: 0.0
Material Temp:
300.0°F
Cumulative
Tons: 338.25
Notes: 0

Tickets

FleetWatcher

Scale Tickets

Q Ticket Numbers

Filter (On)

# 7550491	Truck: HM1619	Waste Tons: 0.0	Truck: HM5445	Waste Tons: 0.0
Jul 26 2018	BRANTLEY	Material Temp: 300.0°F	BRANTLEY	Material Temp: 305.0°F
07:02 AM	PLANT	Cumulative Tons: 77.69	PLANT	Cumulative Tons: 260.33
Gross UST: 40.74	424 SP 3/4" C/	# Notes: 0	424 SP 3/4" C/	Cumulative Tons: 338.35
Net UST: 25.91	D WS		D WS	Cumulative Tons: 415.87
	Phase Code: --		Phase Code: --	# Notes: 0

7550491

Done

TICKET INFO

Date/Time: Jul 26 2018 07:02 AM

Scale Asset Name: HM1619

Asset Name: HM1619

FW Known: Yes

Source: BRANTLEY PLANT

Weighmaster: Ryan Cottle 613430

Project Number: 1612768

Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)

Phase Code: --

Material Name: 424 SP 3/4" C/D WS

Cumulative Tons: 25.91

Void: 0

# 7550494	Truck: HM3685	Waste Tons: 0.0	Truck: HM5445	Waste Tons: 0.0
Jul 26 2018	BRANTLEY	Material Temp: 305.0°F	BRANTLEY	Material Temp: 305.0°F
07:16 AM	PLANT	Cumulative Tons: 155.91	PLANT	Cumulative Tons: 260.33
Gross UST: 40.92	424 SP 3/4" C/	# Notes: 0	424 SP 3/4" C/	Cumulative Tons: 338.35
Net UST: 26.11	D WS		D WS	Cumulative Tons: 415.87
	Phase Code: --		Phase Code: --	# Notes: 0

# 7550497	Truck: HM3688	Waste Tons: 0.0	Truck: HM5445	Waste Tons: 0.0
Jul 26 2018	BRANTLEY	Material Temp: 305.0°F	BRANTLEY	Material Temp: 305.0°F
07:48 AM	PLANT	Cumulative Tons: 260.33	PLANT	Cumulative Tons: 338.35
Gross UST: 40.96	424 SP 3/4" C/	# Notes: 0	424 SP 3/4" C/	Cumulative Tons: 415.87
Net UST: 26.15	D WS		D WS	Cumulative Tons: 415.87
	Phase Code: --		Phase Code: --	# Notes: 0

# 7550501	Truck: HM3688	Waste Tons: 0.0	Truck: HM1619	Waste Tons: 0.0
Jul 26 2018	BRANTLEY	Material Temp: 300.0°F	BRANTLEY	Material Temp: 300.0°F
08:18 AM	PLANT	Cumulative Tons: 338.35	PLANT	Cumulative Tons: 415.87
Gross UST: 40.77	424 SP 3/4" C/	# Notes: 0	424 SP 3/4" C/	Cumulative Tons: 415.87
Net UST: 25.96	D WS		D WS	Cumulative Tons: 415.87
	Phase Code: --		Phase Code: --	# Notes: 0

# 7550504	Truck: HM5445	Waste Tons: 0.0	Truck: HM3685	Waste Tons: 0.0
Jul 26 2018	BRANTLEY	Material Temp: 300.0°F	BRANTLEY	Material Temp: 300.0°F
08:48 AM	PLANT	Cumulative Tons: 415.87	PLANT	Cumulative Tons: 415.87
Gross UST: 40.64	424 SP 3/4" C/	# Notes: 0	424 SP 3/4" C/	Cumulative Tons: 415.87
Net UST: 25.67	D WS		D WS	Cumulative Tons: 415.87
	Phase Code: --		Phase Code: --	# Notes: 0

# 7550507	Truck: HM1619	Waste Tons: 0.0	# 7550509	Truck: HM5445	Waste Tons: 0.0	# 7550509	Truck: HM3688	Waste Tons: 0.0
-----------	---------------	-----------------	-----------	---------------	-----------------	-----------	---------------	-----------------

Tickets

OGFC; IM-I065(489) Conecuh

6 7:30 PM - 5:59 AM

Ticket: Truck # 54258 at 7:47 PM with 20.50 of 420 OGFC Med. First at Bay: 8:14 PM

t: I-6

e: Ev

atio

Cour

ons

al

GFC

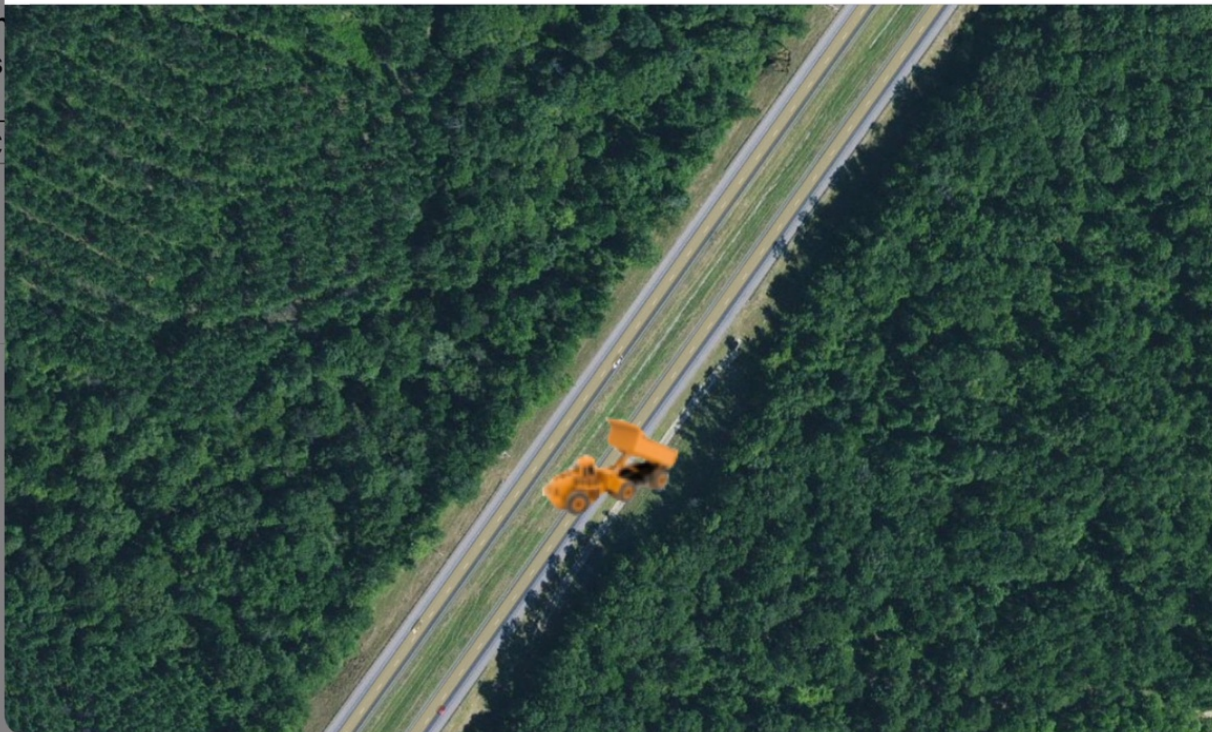
< Scale Tickets

233002695

Done

Dumped:

Sep 16 2018 8:21 PM



Shift:

49.11

29.47

18.29

14.22

91.40

Final Product

Print table

Print Window: All Scale Tickets

Ticket Number	Ticket Date	Scale Asset Name	FW Known	Source	Weighmaster	Project Number	Project Name	Job Name	Phase Code	Material Name	Load ID	Qty Shipped Today	Net Tons	Void	Waste Tons	Free Form 1	Material Temperature	Material Temp Time	DumpGPSLat	DumpGPSLong
		All	All	All	All	All	All	All	All	All				All		All	All		All	All
233002315	Aug 27 2018 12:04 AM	MCK008	Yes	Evergreen Plant	Parrie Harris	IM-1065(489), Conecuh Co.	I-85 OGFC; IM-1065(489) Conecuh	None	50.40112.3	420 OGFC Mod	12	256.73	22.54	--	0.0	420A015 Mainline IM-1065(489) Conecuh Co ST-6M-18 333753 50.40112.3	310.0	2018-08-27 05:17:37	31.5011343	-86.927715
233002316	Aug 27 2018 12:14 AM	HMT366	Yes	Evergreen Plant	Parrie Harris	IM-1065(489), Conecuh Co.	I-85 OGFC; IM-1065(489) Conecuh	None	50.40112.3	420 OGFC Mod	13	279.7	22.97	--	0.0	420A015 Mainline IM-1065(489) Conecuh Co ST-6M-18 333753 50.40112.3	305.0	2018-08-27 05:29:37	31.5015023	-86.927391
222017057	Aug 27 2018 12:15 AM	JK0008	No	Mt. Meigs Plant	Henry White	IMF-1085(339) & NH-0008(568), Montgomery Co.	I-85 Eastern (MP 6.33) to Taylor (MP 9.97)	None	50.40112.29	SMA 19mm Non Skid Rap Mod	16	291.51	21.74	--	0.0	423B-002 IMF-1085(339) & NH-0008(568) MONTGOMERY CO 333751 SH-0008-18 50.40112.29	None	None	None	None
222017058	Aug 27 2018 12:16 AM	JDT001	Yes	Mt. Meigs Plant	Henry White	IMF-1085(339) & NH-0008(568), Montgomery Co.	I-85 Eastern (MP 6.33) to Taylor (MP 9.97)	None	50.40112.29	SMA 19mm Non Skid Rap Mod	17	302.85	11.34	--	0.0	423B-002 IMF-1085(339) & NH-0008(568) MONTGOMERY CO 333751 SH-0008-18 50.40112.29	None	None	32.3619433	-86.1887947
222017059	Aug 27 2018 12:18 AM	SWT0130	Yes	Mt. Meigs Plant	Henry White	IMF-1085(339) & NH-0008(568), Montgomery Co.	I-85 Eastern (MP 6.33) to Taylor (MP 9.97)	None	50.40112.29	SMA 19mm Non Skid Rap Mod	18	314.53	11.68	--	0.0	423B-002 IMF-1085(339) & NH-0008(568) MONTGOMERY CO 333751 SH-0008-18 50.40112.29	None	None	32.3619248	-86.1890365
222017060	Aug 27 2018 12:20 AM	WMT034	Yes	Mt. Meigs Plant	Henry White	IMF-1085(339) & NH-0008(568), Montgomery Co.	I-85 Eastern (MP 6.33) to Taylor (MP 9.97)	None	50.40112.29	SMA 19mm Non Skid Rap Mod	19	326.33	11.8	--	0.0	423B-002 IMF-1085(339) & NH-0008(568) MONTGOMERY CO 333751 SH-0008-18 50.40112.29	None	None	32.362036	-86.1893465
233002317	Aug 27 2018 12:23 AM	HM6795	Yes	Evergreen Plant	Parrie Harris	IM-1065(489), Conecuh Co.	I-85 OGFC; IM-1065(489) Conecuh	None	50.40112.3	420 OGFC Mod	14	303.06	23.36	--	0.0	420A015 Mainline IM-1065(489) Conecuh Co ST-6M-18 333753 50.40112.3	310.0	2018-08-27 05:39:32	31.502512	-86.926404
222017061	Aug 27 2018 12:25 AM	WMT135	Yes	Mt. Meigs Plant	Henry White	IMF-1085(339) & NH-0008(568), Montgomery Co.	I-85 Eastern (MP 6.33) to Taylor (MP 9.97)	None	50.40112.29	SMA 19mm Non Skid Rap Mod	20	338.13	11.8	--	0.0	423B-002 IMF-1085(339) & NH-0008(568) MONTGOMERY CO 333751 SH-0008-18 50.40112.29	None	None	32.3619586	-86.1895825

Final Product

7/30/2018

Fleetwatcher: Print Scale Tickets


<p>Scale Ticket: #7550391</p> <p>Ticket Date: Jul 25 2018 07:07 AM</p> <p>Scale Asset Name: 59-198</p> <p>Asset Name: 59-198</p> <p>FW Known: Yes</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 25.16</p> <p>Void: -</p> <p>Net Tons: 25.16</p> <p>Waste Tons: 0</p> <p>Temperature: 295</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:28:07</p>	<p>Scale Ticket: #7550392</p> <p>Ticket Date: Jul 25 2018 07:09 AM</p> <p>Scale Asset Name: 59-148</p> <p>Asset Name: 59-148</p> <p>FW Known: Yes</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 50.67</p> <p>Void: -</p> <p>Net Tons: 25.51</p> <p>Waste Tons: 0</p> <p>Temperature: 300</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:28:20</p>	<p>Scale Ticket: #7550393</p> <p>Ticket Date: Jul 25 2018 07:11 AM</p> <p>Scale Asset Name: HM1619</p> <p>Asset Name: HM1619</p> <p>FW Known: Yes</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 76.33</p> <p>Void: -</p> <p>Net Tons: 25.66</p> <p>Waste Tons: 0</p> <p>Temperature: 295</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:28:33</p>
<p>Scale Ticket: #7550394</p> <p>Ticket Date: Jul 25 2018 07:15 AM</p> <p>Scale Asset Name: HM3688</p> <p>Asset Name: HM3688</p> <p>FW Known: Yes</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 101.86</p> <p>Void: -</p> <p>Net Tons: 25.53</p> <p>Waste Tons: 0</p> <p>Temperature: 300</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:28:47</p>	<p>Scale Ticket: #7550395</p> <p>Ticket Date: Jul 25 2018 07:25 AM</p> <p>Scale Asset Name: -</p> <p>Asset Name: HM5448</p> <p>FW Known: No</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 127.6</p> <p>Void: -</p> <p>Net Tons: 25.74</p> <p>Waste Tons: 0</p> <p>Temperature: 300</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:29:01</p>	<p>Scale Ticket: #7550396</p> <p>Ticket Date: Jul 25 2018 07:27 AM</p> <p>Scale Asset Name: HM3685</p> <p>Asset Name: HM3685</p> <p>FW Known: Yes</p> <p>Source: BRANTLEY PLANT</p> <p>Weighmaster: Ryan Cottle 613430</p> <p>Project Number: 1602015</p> <p>Project Name: CRENSHAW SR 9 (US 331) NH-HSIP-0009(552)</p> <p>Phase Code: -</p> <p>Material Name: 424 SP 3/4" C/D WS</p> <p>Cumulative Tons: 153.13</p> <p>Void: -</p> <p>Net Tons: 25.53</p> <p>Waste Tons: 0</p> <p>Temperature: 300</p> <p>Free Form 1: -</p> <p>Notes: 1</p> <p>Dusty Dewrell DUSTY DEWRELL / 2018-07-25T08:29:15</p>

➤ Next Steps

- Pilots for smaller contractors
- Pilots in other areas of the State
- More inspectors
- HMA placement rate calculations
- Additional software vendors

Issues

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



A problem is only a problem when
viewed as a problem. All change is
hard at first, messy in the middle
and gorgeous at the end.

Robin S. Sharma



Questions?

Hunter Golson

GOLSONWI@DOT.STATE.AL.US

205-462-2372